U.S. ENVIRONMENTAL PROTECTION AGENCY

TECHNICAL ENFORCEMENT SUPPORT

AT

HAZARDOUS WASTE SITES

TES X

CONTRACT NO. 68-W9-0007
WORK ASSIGNMENT NO. R05068

FINAL PRELIMINARY ASSESSMENT/ VISUAL SITE INSPECTION REPORT

FOR

OLIN CORPORATION JOLIET PLANT
EPA ID#: ILD049809379

IN

JOLIET, ILLINOIS

U.S. EPA REGION V

METCALF & EDDY
PROJECT NO. 153068

WORK PERFORMED BY:

METCALF & EDDY, INC.
208 SOUTH LASALLE
SUITE 1733
CHICAGO, IL 60604

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1.0 INTRODUCTION

Metcalf & Eddy (M&E) received Work Assignment No. R05068 from the U.S. Environmental Protection Agency (U.S. EPA), under Contract No. 68-W9-0007 (TES X), to conduct preliminary assessments and visual site inspections (PA/VSIs) at various RCRA facilities in Region V as part of the Environmental Priorities Initiative.

The Initiative combines CERCLA and RCRA programs in order to select and address RCRA facilities that are a high priority for corrective action using available CERCLA and RCRA authorities. The first step in prioritizing facilities is to conduct PA/VSIs. The PA consists of a preliminary review of existing state and federal file information in order to identify past and potential releases to the environment from solid waste management units (SWMUs) and/or areas of concern (AOCs). Information gathered during the PA include:

1. A list of SWMUs and AOCs at the facility.
2. Unit and waste characteristics of SWMUs and AOCs.
3. Site migration pathways.
4. Release history from SWMUs and AOCs.
5. Exposure potential to humans and the environment.
6. Data gaps.

The VSI entails an inspection of the entire facility, including interviews with state (or municipal) and facility representatives and photographs of all SWMUs and AOCs. Major factors considered in the VSI include:

1. The physical condition of SWMUs and AOCs.
2. The identification of SWMUs and AOCs not revealed in the PA.
3. Waste management practices.
4. Identification of release pathways and potential of release to each media.
5. Visual evidence of releases.

The VSI is also intended to uncover releases not identified in the PA, confirm the operational history of the facility, address existing data gaps and provide more information of release pathways and the environmental setting. If evidence of a release is observed at a facility, potential sampling points will be determined.

This report illustrates the results of the PA/VSI of the Olin Corporation Joliet (Olin) facility in Joliet, Illinois (ILD049809379).

Information was gathered from the Illinois Environmental Protection Agency (IEPA) and the U.S. EPA Region V files in order to conduct the PA. In addition, telephone interviews were conducted with Olin representatives. A walk-through inspection of the facility occurred on January 20, 1993. Eleven (11) SWMUs and twelve (12) AOCs were identified during the VSI. A VSI summary and field notes are provided in Appendices A and B respectively.

2.0 FACILITY DESCRIPTION

This section describes the facility location, past and present operations and ownership, waste streams, waste management practices, release history, regulatory history, environmental setting, and potential receptors.

2.1 FACILITY LOCATION

The OLIN facility is located at the intersection of Patterson and Laraway Roads south of Joliet, Illinois. The city of Joliet is situated in the west-central portion of Will County in northeastern Illinois. The site is located at a latitude of 41 28'45" N and a longitude of 88 7'00" W (see Figure 1: Facility Location Map.)

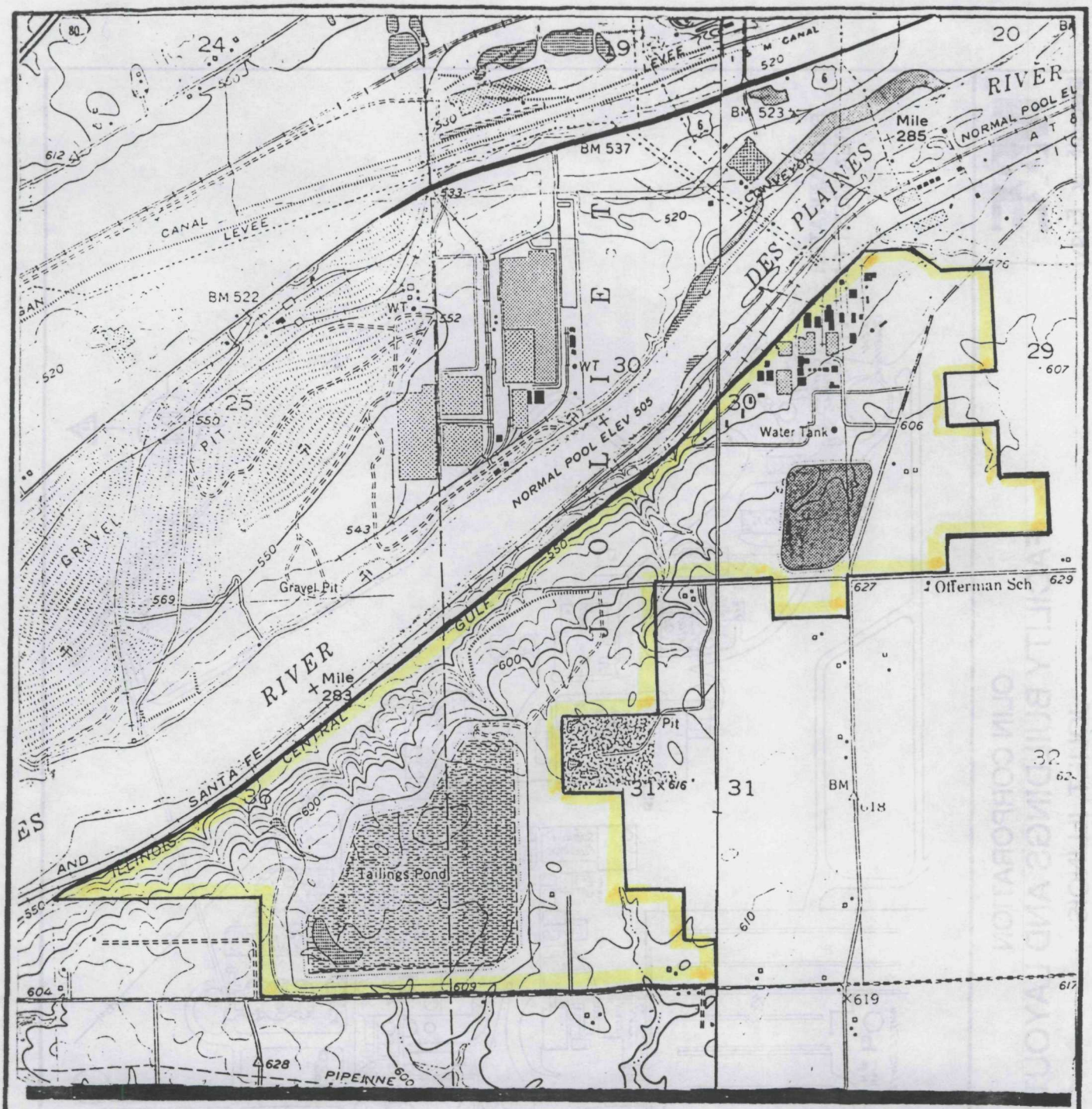
Site grounds cover 1,015 acres; 175 acres are occupied by manufacturing facilities. The facility consists of approximately 20 buildings where raw materials were combined in the manufacturing of various industrial phosphates (see Figure 2: Facility Building Layout).

2.2 FACILITY OWNERSHIP/OPERATION

The facility was founded in 1926 by John Block for the manufacture of trisodium phosphate which was the first synthetic product used as a cleaning agent in place of soap. The plant was initially owned and operated by the Block brothers and incorporated in 1928 as the Blockson Chemical Company. In 1955, Blockson Works merged with Mathieson Alkali Company that later became known as Olin Mathieson Chemical Corporation and then Olin Corporation.

Olin Corporation is in the process of transferring ownership of the plant to Texasgulf, Inc. and Albright and Wilson Americas. The plant has been inactive since June 1991 when ownership transfer activites began. Transfer of ownership is expected to be completed by 1995. Until the transfer is finalized, Olin has requested and received permission from the IEPA to temporarily close all SWMUs. All hazardous materials have been removed from the facility. Currently, plant activities are limited to the operation of the Storm Water Treatment Facility, mining of phosphates from the treatment ponds, and basic plant maintenance.

Olin was the largest one location industrial sodium phosphate producer and the only domestic producer of industrial phosphates to use the "Wet Process". This process incorporated the use of acids in the production of industrial phosphates for use in the production of soaps and other phosphate products.



SCALE 1:24 000

1 0 1 MILE

PLAINFIELD, ILL.
N4130—W8807.5/7.5
1962
PHOTOREVISED 1973 AND 1980
DMA 3367 II SW—SERIES V863

CHANNAHON, ILL.
NW/4 WILMINGTON 15' QUADRANGLE
N4122.5—W8807.5/7.5
PHOTOREVISED 1978
1954
PHOTOREVISED 1973
AMS 3366 I NW SERIES V863

ILLINOIS
QUADRANGLE LOCATION

JOLIET, ILL.
SE/4 JOLIET 15' QUADRANGLE
41088-E1-TF-024
1962
PHOTOREVISED 1973
DMA 3367 II SE—SERIES V863

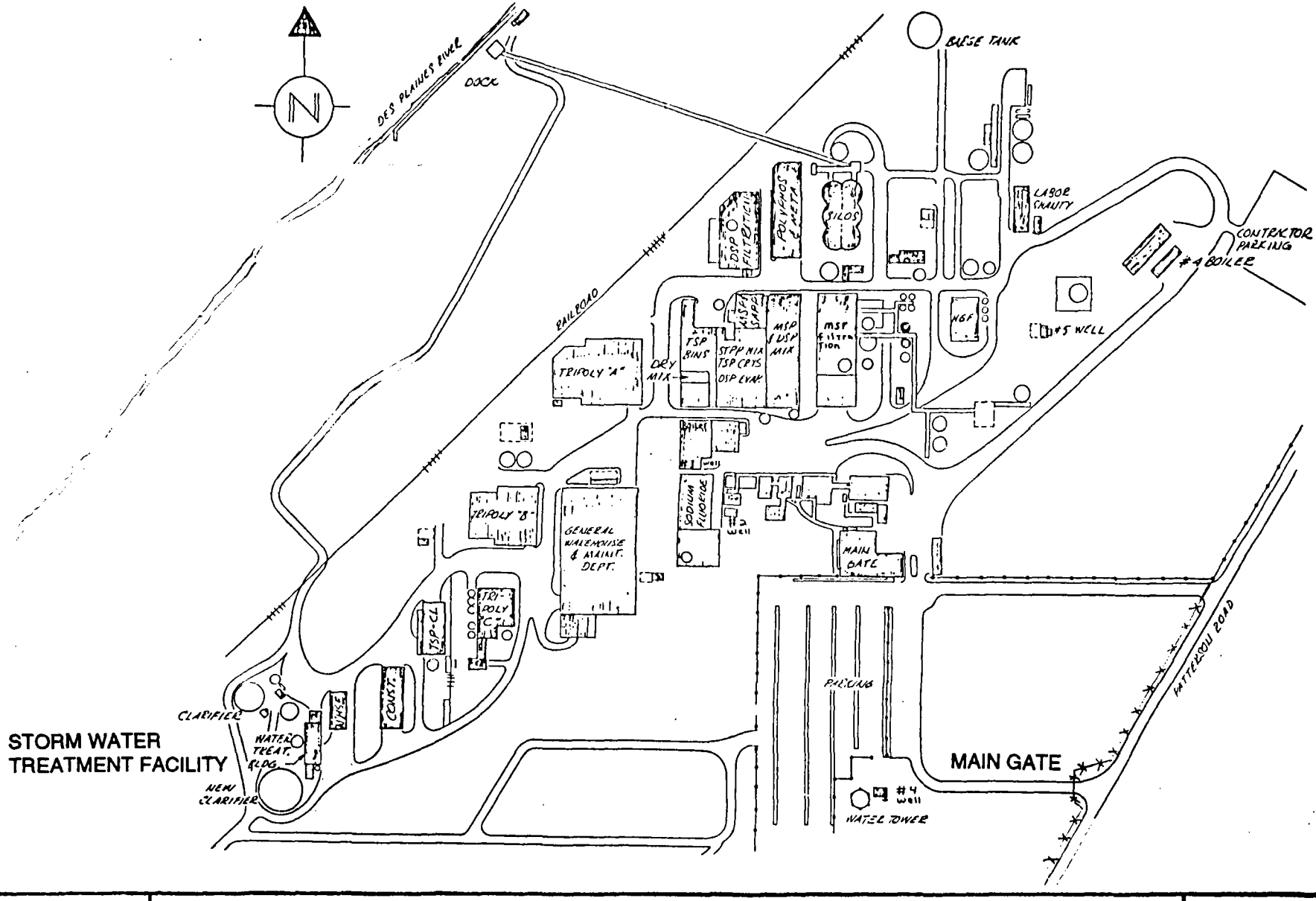
ELWOOD, ILL.
NE/4 WILMINGTON 15' QUADRANGLE
N4122.5—W8800/7.5
1953
PHOTOREVISED 1973
AMS 3366 I NE—SERIES V863

M&E
Metcalf & Eddy

OLIN CORPORATION
SITE LOCATION
JOLIET, ILLINOIS

Project Number
153068-1-626

Figure
1



M&E Metcalf & Eddy	OLIN CORPORATION FACILITY BUILDINGS AND LAYOUT JOLIET, ILLINOIS	Project Number 153068-1-626 Figure 2

The original plant began as one small building and a garage, manufacturing trisodium phosphate and glauber salt. In the early to mid thirties, disodium phosphate, crystalline and anhydrous, monosodium phosphate crystalline, sodium silicofluoride, tetrasodium pyrophosphate, sodium hexametaphosphate, and mono and dicalcium phosphate were produced. In the late thirties, mono and dicalcium phosphate production was discontinued.

In the forties, production expanded to include trisodium phosphate crystalline (1940), sulfuric acid (1942), trisodium phosphate chlorinated (1944), sodium silicofluoride (1948), and sodium fluoride (1949). Sodium tripolyphosphate was produced in trial quantities in 1942 and on a large scale in 1948.

In the fifties, several sulfuric acid plants were built. A hydrofluoric acid plant was built in 1954 and expanded in 1957. In 1957-58 an additional trisodium phosphate chlorinated plant and the present sodium hexametaphosphate plant were built. During the fifties the Joliet facility also produced limited quantities of tetrapotassium pyrophosphate. In 1959 the gypsum pile was built to assist in the production of phosphoric acid.

During the sixties and seventies, refinements and expansion were added to support the current Joliet production line. In 1969, Olin discontinued producing sulfuric acid due to the age of the plant and in 1975 hydrofluoric acid production was discontinued.

The facility has never been connected to a municipal sewer system. A facility sanitary sewer system has operated since the mid 1960s. In approximately 1965 an inground sanitary sewer was installed just south of the Maintenance and Warehouse building and operated until approximately 1980. It was removed in 1982. The present sanitary sewer was constructed in 1976 and served the facility until it became inactive in 1991. Presently, the facility is on a septic system.

Plant process water was initially obtained from wells located on the facility property. Starting in the early 1970s, various production lines began recycling process waters through the phosphate ponds. In 1976, all process makeup water was recycled and drawn from Total Retention Pond #2 (TRP #2) with augmentation from plant wells.

Olin originally notified the U.S. EPA as a generator of hazardous waste and as a TSD before reverting to small quantity generator status. Waste streams at the plant included unknown quantities of the following: D001 - grease/petroleum distillate, sodium permanganate solution, waste flammable liquid, waste oxidizer, waste acid, waste alkaline, waste paint related material, waste perchloric acid, waste hydrogen peroxide; D002 - waste lab acid, waste ammonium hydroxide, sodium hydroxide, sodium silicate, sodium & potassium silicates, diethylethanolamine; D003 - Reactive; D004 - Arsenic; D005 -

Barium; D006 - Cadmium; D007 - Chromium; D008 - Lead; D009 - Mercury; D010 - Selenium; D011 - Silver; D014 - Methoxychlor; D018 - Benzene (oil and paint thinner); F002 - spent halogenated solvents such as 1,1,1-trichloroethane; F003 - spent non-halogenated solvents such as xylene; F005 - spent non-halogenated solvents such as methyl ethyl ketone, and lab packs. In 1991 and 1992, Olin Corporation removed all hazardous wastes from the facility which qualified them as a large quantity generator. (See Table 1: Olin Wastes by Chemical Composition and Waste Code.)

2.3 RELEASE HISTORY

One release of hazardous waste was documented at the Joliet facility. In 1983, a mercury spill of unknown quantity occurred at the facility. No records of the spill were available from Olin at the time of the VSI. According to Olin representatives the mercury and mercury contaminated clothing may have resulted from a broken temperature gauge on a facility kiln. U.S. EPA file information indicates that spilled materials and contaminated clothing were double contained in steel drums and stored in a designated on-site hazardous waste storage area prior to off-site disposal.

2.4 REGULATORY HISTORY

On March 27, 1980 the U.S. EPA performed a Potential Hazardous Waste Site Identification and Preliminary Assessment for the Olin Joliet facility identifying it as an active generator of hazardous waste and a landfill.

On July 28, 1980 the U.S. EPA performed a Potential Hazardous Waste Site Tentative Disposition for the Olin Joliet facility and found that investigative action was needed due to insufficient information on the facility.

On August 18, 1980 Olin filed a Notification of Hazardous Waste Activity listing activity as both a generator and TSD. Wastes generated at the site included F002, F003, F005, U239, U002, U013, U133, U154, U196, D002.

On September 28, 1980 the U.S. EPA supplied the Joliet facility with a hazardous waste identification number: ILD049809379.

On November 17, 1980 Olin filed a Part A Application with the U.S. EPA listing S02 (waste tanks), T03 (incinerator) and S01 (containers) holding the following wastes: K054, D001, D002, F002, F003, F005, U239, U002, U133, U154, U196, U013. Olin stated that no waste is normally generated at the Joliet facility, but products may be considered a hazardous waste if they are spilled or become off-specification.

TABLE 1

OLIN WASTES, BY CHEMICAL COMPOSITION AND HAZARDOUS WASTE CODE

Hazardous Material Waste Code:	Chemical/Material
Characteristic waste D001	grease/petroleum distillate sodium permanganate solution waste flammableliquid waste oxidizer waste acid waste alkaline waste paint related material waste perchloric acid waste hydrogen peroxide
Characteristic waste D002	waste lab acid waste ammonium hydroxide sodium hydroxide sodium silicate sodium & potassium silicates diethylethanolamine
Characteristic waste D003	Reactive
Characteristic waste D004	Arsenic
Characteristic waste D005	Barium
Characteristic waste D006	Cadmium
Characteristic waste D007	Chromium
Characteristic waste D008	Lead
Characteristic waste D009	Mercury
Characteristic waste D010	Selenium
Characteristic waste D011	Silver
Characteristic waste D014	Methoxychlor
Characteristic waste D018	Benzene (oil and paint thinner)
Listed waste F002	1,1,1 trichloroethane
Listed waste F003	Xylene
Listed waste F005	Methyl ethyl ketone
Lab waste P012	Arsenic oxide

Hazardous Material Waste Code:	Chemical/Material
Lab waste P018	Brucine
Lab waste P022	Carbon disulfide
Lab waste P048	2,4-Dinitrophenol
Lab waste P098	Potassium cyanide, phenol, lead compounds
Lab waste P106	Sodium Cyanide
Lab waste P119	Vanadic acid, ammonium salt arsenic, lead, and mercury compounds, p-nitrophenol, ammonium metavanadate,brucine 2,4-dinitrophenol, ammonium vanadate
Lab waste P120	Vanadium oxide
Lab waste U002	Acetone
Lab waste U003	Acetonitrile (I,T)
Lab waste U044	Chloroform
Lab waste U051	Creosote
Lab waste U122	Formaldehyde
Lab waste U133	Hydrazine (R,T)
Lab waste U134	Hydrofluoric acid (C,T)
Lab waste U144	Lead acetate
Lab waste U154	Methanol (I)
Lab waste U169	Nitrobenzene (I,T)
Lab waste U170	p-Nitrophenol
Lab waste U188	Phenol
Lab waste U189	Phosphorus sulfide (R)

Hazardous Material Waste Code:	Chemical/Material
Lab waste U196	Pyridine

Lab waste U211	Methane, tetrachloro-
Lab waste U226	Ethane, 1,1,1-trichloro-
Lab waste U239	Xylene
Delisted waste K054	Chrome
Delisted waste U013	Asbestos

On November 19, 1980 the U.S. EPA conducted a RCRA Inspection on Interim Status Standards for Treatment, Storage, and Disposal Facilities, Generators, and Storage facilities. The inspectors found no wastes on-site during the inspection.

On December 19, 1980 the U.S. EPA sent a letter to Olin with an attached copy of the inspection report of 11-19-80.

On March 11, 1980 the U.S. EPA sent a Notification of Violation letter to Olin listing the following violations to be corrected:

1) No formal inspection plan
2) No inspection log or summary of malfunctions, errors, discharges, etc.
3) Personnel training records did not include job title, description of training, record of training as related to hazardous waste.
4) The contingency plan did not include a list of all emergency equipment at the facility.
5) The contingency plan did not include an evacuation plan.

On March 27, 1981 Olin replied to the Notice of Violation by justifying apparent violations and stating they were in compliance.

On July 1, 1981 a U.S. EPA communication with Olin eliminated the S02 filing from the original Part A filing.

On January 28, 1982 Olin applied for a permit with IEPA to develop and operate a TSD listing F002, F003, F005, U013.

February 11, 1982 the IEPA conducted a pre-development inspection for operating a TSD and noted that the storage areas were already in existence.

On April 5, 1982 the U.S. EPA sent an Interim Status Acknowledgement to Olin stating that the Part A Application is complete and that Olin is the owner or operator of a hazardous waste management facility.

On April 27, 1982 the IEPA granted a development permit for a waste management facility to store special wastes with several conditions for Olin to follow during development.

On May 5, 1982 Olin requested an operating permit for the Hazardous Waste Storage Area from IEPA.

On May 18, 1982 the IEPA notified the Village of Rockdale that Olin has requested an operating permit for a Hazardous Waste Storage Area and solicited comments.

On June 18, 1982 the IEPA granted an operating permit to Olin for a Hazardous Waste Storage Area with all the standard conditions applying.

On July 28, 1983 Olin notified both the IEPA and U.S. EPA that M.S. Davenport was the authorized signatory for RCRA and NPDES Permitting Programs at the Olin - Joliet plant.

On September 19, 1983 Olin notified the IEPA of the following amendments to its permit:

1) An updated list of waste generated including F002, F003, F005, U013 and D009 (listed as the result of a spill on-site).
2) A more thorough description of the Lab packs including P106, P098, P120, U189, U051, D005, U122, U170, U169, P119, D007.

On September 22, 1983 Olin notified the U.S. EPA of revisions in its Part A Application.

On January 9, 1984 the U.S. EPA requests a formal Part A withdrawal from Olin for the Joliet facility.

On January 23, 1984 Olin responded to the U.S. EPA letter of 1-9-84 and formally requested a withdrawal of their Part A Application due to the small quantity generator exclusion.

On February 29, 1984 the U.S EPA requested additional information from Olin in support of the Part A Application withdrawal request. The U.S. EPA was interested in wastes generated of acute toxicity including: sodium cyanide, potassium cyanide, and vanadium oxide.

On March 28, 1984 Olin informed the IEPA that because IEPA was handling facility closures it was submitting the information requested in the U.S. EPA letter of 2-29-84 to IEPA along with a closure plan for the storage area. Olin also informed IEPA that the initial S02 (tank storage) from the original notification was never built and was deleted from the application on 7-1-81.

On March 11, 1986 IEPA informed Olin of a discrepancy in generator codes used by OLIN. IEPA records show a waste stream permit code of 1970450010. Evidently Olin used 1970455012.

On November 25, 1986 Olin informed the U.S. EPA that the PCB storage area had ceased operations. All PCB items were removed and storage pans decontaminated.

On January 23,1989 the IEPA informed Olin that in June 1989 the permit for special waste disposal, treatment, or storage would expire.

On February 11, 1991 the IEPA sent a reminder of new rules (9-18-90) for governing design and operation of all new and existing landfills. Landfills must notify by 3-18-91 when they will close.

On February 27, 1991 Olin responded to the IEPA letter of 2-11-91 stating that the Landfill Notification did not apply to Olin.

On April 30,1991 Olin informed the IEPA of the transfer of Olin's industrial phosphate business to Albright and Wilson Americas, its phosphate joint venture partner. During the transition period, the Joliet plant will be temporarily inactive. Olin will continue to operate its waste water treatment facility during the time that the plant is inactive.

On May 2, 1991 the IEPA issued a NPDES permit for discharges from the plant.

On May 9, 1991 Olin petitioned the Illinois Pollution Control Board for a variance of regulations covering air emissions and when certain modifications need be completed for the plant as operations of certain scrubbers will be discontinued for an unknown period of time. The variance (PCB 89-72) was granted provided that OLIN followed the stipulations of the Order.

On June 29, 1991 Olin submitted an EPA Form R (Toxic Chemical Release Reporting) to the IEPA. Olin also informed the IEPA that the facility ceased production operations in June, 1991 with the exception of the SWTF.

On August 2, 1991 the IEPA accepted a biomonitoring plan pertaining to the OLIN Waste Water Treatment Plant. The plan was submitted by Olin on July 12, 1991.

On February 21, 1992 Olin filed a 1991 Illinois Hazardous Waste Report with the IEPA for the Olin facility. In the comments section, Olin stated that the plant in Joliet ceased production in June, 1991. As a result of the shut down and subsequent removal of raw or obsolete materials, the Joliet plant would be a large quantity generator of hazardous waste. Olin also stated that they expect to revert to small quantity generator status again in 1993. The only remaining activity occurring at the facility is the operation of the storm water treatment plant. Wastes shipped off-site included: waste oil and water containing 1,1,1 trichloroethane (F001), grease/petroleum distillate (D001), oil and paint thinner (D018), sodium permanganate solution (D001), waste lab acid (D002), and lab packs (P012, P018, P022, P048, P098, P119, P120).

On February 24, 1992 Olin filed a Tier Two Emergency and Hazardous Chemical Inventory Form for the Joliet facility. Olin also stated that the form for the 1992 year would be

substantially different due to plant operations ceasing in June, 1991.

On April, 1992 Olin submitted a Spill Prevention and Countermeasure Plan for the Joliet facility to the IEPA.

On December 15, 1992 IEPA informed the U.S. EPA that it was withdrawing the variance of May 9, 1991 docketed as PCB 89-72 for the Olin facility as the variance had expired, no request for extension had been requested, and the plant had been shut down. (See Table 2 for the current status of all SWMUs.)

No other violations or environmental permits are known to be held by the Zone 17 facility.

TABLE 2
SOLID WASTE MANAGEMENT UNITS (SWMUs)
OLIN CORPORATION JOLIET PLANT

SWMU #	Description	RCRA Hazardous Waste Unit*	Status
SWMU #1:	Waste Oil Storage Area	N	Inactive**
SWMU #2:	Empty Drum Storage	N	Inactive**
SWMU #3:	Lab Pack Storage Area	Y	Inactive**
SWMU #4:	PCB Storage Area	N	Closed
SWMU #5:	Spent Solvents Storage Area	Y	Inactive**
SWMU #6:	Baghouses and Bags	N	Inactive**
SWMU #7:	Hazardous Waste Storage Building #1 - 120' x 18'	Y	Closed
SWMU #8:	Hazardous Waste Storage Building #2 - 20' x 26'	Y	Closed
SWMU #9:	Sewage Treatment Sludge	N	Inactive**
SWMU #10:	Sodium Phosphate Ponds	N	Active
SWMU #11:	Storm Water Treatment Facility	N	Active

Notes:

* A RCRA hazardous waste management unit is one that currently requires a RCRA permit.

** The plant was shut down in June 1991 and is currently inactive. No units have been RCRA closed.

2.5 ENVIRONMENTAL SETTING

The following sections describe the local climate, soils, surface waters, geology and hydrogeology in the area of the site.

2.5.1 Climate

The climate of Madison County can be classified as continental and is characterized by the marked changes in weather common to the latitude and to the interior of a large land mass. In winter (December, January, February) the average temperature is 31 degrees Fahrenheit, and the average daily minimum temperature is 23 degrees. In summer (June, July, August) the average temperature is 77 degrees, and the average daily maximum temperature is 87 degrees. (USDA, 1982)

The average annual precipitation is about 32 inches, with 67 percent usually falling in April through September. The one year, twenty-four hour rainfall figure for this region is 2.5 inches (Rainfall Frequency Atlas of the U.S. , 1963). Thunderstorms occur approximately 37 days each year, most occurring in the summer months, and result from storms from the west and southwest. Average seasonal snowfall in 39 inches. The mean annual lake evaporation in this area is 30 inches. (Climate Atlas of the U.S., 1968). The prevailing wind is from the west in winter and south in the summer.

2.5.2 Area Soils and Surface Waters

The natural soils in the area consist of Blount silt loam, 2-4% slopes, Rodman gravelly loam, 12-30% slopes, Nappannee silt loam, 2-4% and 4-7% slopes, Bryce silty clay, Plattville silt loam, 2-4% slopes, Chatsworth silty clay, 12-30% slopes, Channahon silt loam, 0-2% and 2-4% slopes, Romeo silt loam, and Sogn loam, 12-30% slopes. These soils are nearly level to steeply sloping, somewhat poorly drained and well drained soils that are moderately permeable throughout (USDA, 1979).

Blount silt loam is nearly level, somewhat poorly drained soil on low ridges and in shallow depressions and drainageways on uplands. Some areas of this soil are artificially drained. In undrained areas or where construction has disrupted drainage, the water table is a depth of 1 to 3 feet during the wet seasons. Water and air movement through this soil is slow, and surface runoff from cultivated areas is slow. This soil has a severe limitation for buildings because of wetness (USDA, 1979).

Rodman gravelly loam is excessively drained, steep soils on side slopes along stream channels and morainic ridges. Water and air capacity through these soils is very rapid, and surface runoff is medium (USDA, 1979).

Nappannee silt loams are nearly level and gently sloping, somewhat poorly drained soil on low ridges and knolls of glacial

till plains and tops of broad moraines on uplands. In undrained areas or in areas where systems have failed, a periodic water table is at a depth of 1 to 2 feet during the wet season. Water and air movement through this soil is very slow, and surface runoff from cultivated areas is medium. Tile drains do not function well, but narrow spacings and porous filters can be used to help improve drainage in wet spots (USDA, 1979).

Bryce silty clay is a nearly level, poorly drained soil on upland flats and in depressions and drainageways. It is occasionally flooded for a long period in spring. Many areas of this soil are artificially drained by drainage tile and to a lesser extent by surface ditches or sewer systems. In undrained areas or in areas where drainage systems have been damaged by construction, a water table is a depth of 1 foot or less during wet seasons. Water and air movement through this soil is slow, and surface runoff from cultivated areas is slow to ponded (USDA, 1979).

Plattville silt loam is well drained and formed in glacial drift over limestone uplands. Drainage may be needed in some areas (USDA, 1979).

Chatsworth silty clay is strongly sloping, moderately well drained soil on severely eroded side slopes of ridges and knolls in rolling morainal areas. Water and air movement through this soil is very slow, and surface water runoff from cultivated areas is rapid (USDA, 1979).

Channahon silt loam consists of shallow, well and moderately well drained soils thinly formed in loamy drift over limestone on uplands (USDA, 1979).

Romeo silt loam is very shallow, nearly level soil on flood plains and water swept beaches along the Des Plaines River. It is frequently flooded for brief periods each spring. Most areas of this spoil appear to be poorly drained, but drainage is difficult to assess because of the thin soil. Underlying this is light gray, very hard limestone. The water table is at a depth of 1 foot or less during the wet seasons, and more areas are flooded by runoff from higher slopes. Water and air movement through this soil is moderate and surface water runoff from cultivated areas is slow (USDA, 1979).

Sogn loam consists of shallow and very shallow, somewhat excessively drained soils formed on residuum weathered mainly from limestone on uplands (USDA, 1979).

The Olin facility is situated along the bluffs overlooking the Des Plaines River. As a result the eastern and western edges of the property are relatively flat and for this reason water collects in puddles and pools when it rains. The plant is located between two slope areas that create a transition zone between the flat uplands and the Des Plaines River.

The closest surface water bodies in the facility vacinity are fresh water wetlands on-site and the Des Plaines River, adjacent to the facility to the west. The facility is not located in a flood prone area or within the 100 year flood plain.

Surface runoff from the facility is directed through three ponds on-site; The south pond, north pond and west pond. The west pond handles all storm water runoff from the west side of the facility as well as water from the phosphate ponds and gypsum pile. All water directed to the west pond is processed through the Olin Storm Water Treatment Facility (SWTF) prior to discharge into the Des Plaines River. The south pond and north pond are connected by a drainage ditch and culvert. Storm water from the eastern edge of the facility flows from the south pond to the north pond which discharges to the Des Plaines River. Prior to discharge the water is analyzed. If any contaminants are found in water contained in the north pond, the outfall is diverted to the west pond. Outfalls from the ponds and SWTF are permitted by NPDES permits. (See Appendix C for laboratory analyses of the north pond and gypsum pile.)

2.5.3 Area Geology and Hydrogeology

Topographic features in the area of the site are a result of both glacial deposition and erosion. Moraines, and hilly ridges, composed of till deposited by glacial ice are conspicuous topographic features in Will County (Illinois State Water Survey, 1976). The Olin facility is adjacent to the Des Plaines River along the bluffs that mark the transition between the upland lake plains and the river valley.

The upland plains are a result of glacial outwash and lake deposition. The result is large flat plains underlain by till. This till averages a depth of 20 feet over approximately 75% of the county. It is composed of unsorted debris consisting of pebbles, cobbles, and boulders embedded in a matrix of clay, silt, and sand, deposited by glacial ice (Illinois State Water Survey, 1976).

The Des Plaines River is a major transportation route between the Great Lakes and the Mississippi River. Barge traffic makes the Des Plaines River one of the busiest in the country as large quantities of grain, soybeans, coal, oil, chemicals, and mineral products are transported each year. In addition, several rail lines take advantage of the easy valley grade in routing track out of Chicago to the west and south (Illinois State Water Survey, 1976).

Will County is unique among the five counties that make up northeastern Illinois in that bedrock lies very near the surface and in many places is exposed at the surface. Bedrock outcrops in several locations on the OLIN facility property. This bedrock is Silurian age dolomites. The dolomite is suitable for use in the making of construction aggregate, and building stone.

Quarrying in the area of the OLIN facility often includes sand and gravel production as the sand and gravel overlie the bedrock (Illinois State Water Survey, 1976).

Will County obtains all its drinking and industrial water from groundwater resources. There are two main aquifer systems that are developed in the county - a shallow system and a deep system. The shallow aquifer is the uppermost water-bearing unit and is located approximately 20 feet below grade. It consists of the shallow Silurian dolomites and the associated sand and gravel deposits in the overlying glacial drift. A majority of public and private wells use the shallow Silurian dolomite. It is capable of yielding moderate to large quantities of water. The deep aquifer consists of sandstone and dolomite formations of Cambrian and Ordivician Ages. Almost all of the industrial plants along the Des Plaines Valley obtain their water from the deep sandstone aquifers because they contain greater quantities of water. (Illinois State Water Survey, 1976). Olin groundwater wells use the deep aquifer and range from 1200 - 1700 feet in depth. Groundwater and surface water flow is believed to be in a westerly direction, towards the Des Plaines River in the area of the facility.

2.6 RECEPTORS

The Olin facility is located in a mixed industrial and agricultural area. The facility is fenced with a 24-hour monitored gate. A phone and electronic control system are located at the gate. Commonwealth Edison maintains a power plant immediately north of the facility and Chem Waste Management operates a hazardous waste landfill immediately to the south. Residences in the area are adjacent to the facility on the south and east. These residences are approximately 700 feet south and 1,000 feet east of the phosphate ponds. Farmland adjoins the facility to the east and south with the Des Plaines River to the west. A major rail line lies between the river and the facility. Other residences, industry, and agricultural land are located within a four mile radius of the facility.

The highest concentration of residences is to the northwest, north, and northeast. Prevailing winds are from the west in the winter and south in the summer. Therefore the predominant downwind direction in the summer is in the direction of area residents. No reports of hazardous odors have been reported.

The nearest surface water bodies are fresh water wetlands on-site and the Des Plaines River adjacent to the facility to the west. The Des Plaines is a major transportation corridor in the central U.S. as well as a popular recreation source and tourist attraction.

Sensitive environments in the vicinity of the facility include on-site freshwater wetlands (larger than two acres) and sensitive habitats for endangered species. Sensitive habitat for

the Bald Eagle is situated adjacent to the facility along the Des Plaines River. Sensitive habitats for the Indian Bat, Lakeside Daisy, and Prairie Clover are found within a four mile radius of the facility.

Wells for nearby residences are located adjacent to the facility on the south and within 1/4 mile to the east. These wells have an average depth of approximately 100 - 150 feet and draw from the shallow Silurian dolomite aquifer. The facility operated 6 deep aquifer wells ranging in depth from 1,250 - 1,700 feet. Water from these wells was used for drinking, process, and sanitary uses until 1977. At that time, the plant began to recycle process water and drinking fountains in the facility were replaced with bottled water. At present, only one of these wells is used to supply the SWTF with sanitary and process water. A 300,000 gallon water tower is located on site and was used for emergency backup. At the time of inspection the tank was empty.

3.0 SOLID WASTE MANAGEMENT UNITS

This section describes in detail the SWMUs identified during the PA/VSI. It includes a description of the waste unit, dates of operation, wastes managed, release controls, release history, and observations. (See Figures 3 & 4 for SWMU/AOC locations & Appendix A for photographs of SWMUs and AOCs. Appendix D contains waste manifests.)

SWMU #1: **Waste Oil Storage Area**

Unit Description: Waste oil was stored in a 8000 - 10,000 gallon tank at the southwest corner of the TEOX Building. The tank is inside a diked area and is marked as a container of waste oil only. Prior to 1980, oil was drummed at various locations in the facility and transported off-site.

Date of Start up: 1980.

Date of Closure: The unit became inactive in August 1991.

Wastes Managed: Waste oil was generated from pumps, gear reducers and fork lifts in the plant.

Release Controls: The unit is located on the concrete foundation of the building and the area around the tank is diked.

History of Release: No releases have been documented or reported.

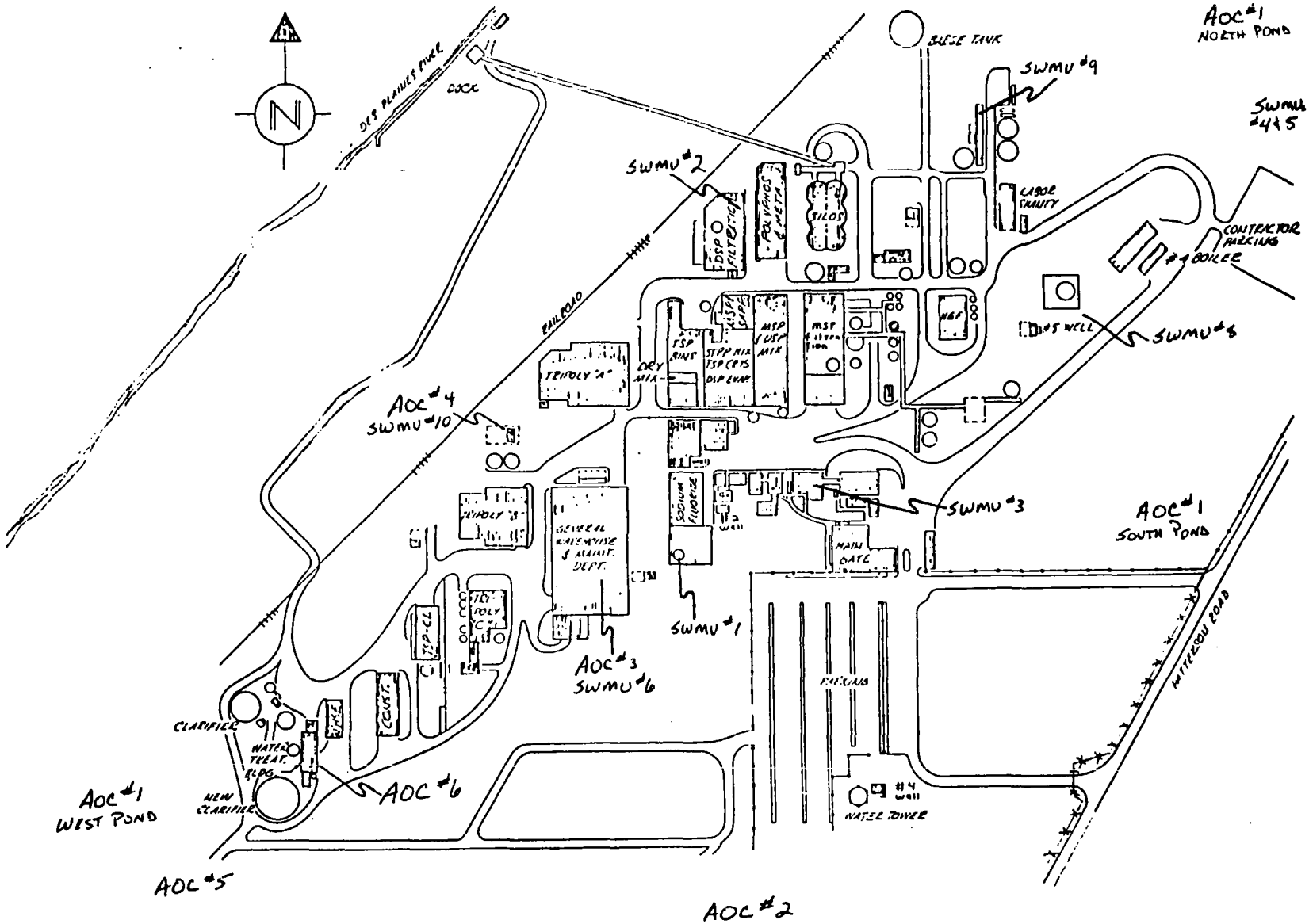
Observations: SWMU was in good condition and empty at the time of inspection. Waste oil was shipped off-site for energy recovery.

SWMU #2: **Empty Drum Storage**

Unit Description: These drums are made of steel and polystyrene and contained virgin products. These products included oils, acids, and solvents which were used in various plant processes. When the drums were empty they were washed out and stored prior to reuse or shipment off-site. Washing was done at the old 55 building now listed as DSP Filtration. Prior to 1982, drum cleaning was done at various locations throughout the plant. Rinse water drained to the facility's recycled process water system.

Date of Start up: 1982.

Date of Closure: The unit became inactive in 1991.



M&E Metcalf & Eddy	OLIN CORPORATION FACILITY LAYOUT SWMUs/AOCs JOLIET, ILLINOIS	Project Number 153068-1-626 Figure 3

Wastes Managed: Product residues from drums.

Release Controls: Drum washing occurred on a concrete floored area. The area drains to the facility recycled process water system.

History of Release: No releases have been documented or reported.

Observations: SWMU was inactive at the time of inspection. Some staining on the walls and floors in the former SWMU area was noted, but the origin of the stains is unknown.

SWMU #3: **Lab Pack Storage Area**

Unit Description: Lab chemicals and reagents for product analysis were stored in a small closet on the second floor of Building #2 in the process tech area. The storage closet was marked as a storage area and the doorway was diked to prevent release to the building.

Date of Start up: The first evidence of operations at the facility was a Permit A Hazardous Waste Facility Application dated August 18, 1980. However, interviews with facility employees indicate that this SWMU operated prior to 1980.

Date of Closure: The unit became inactive in July 1991.

Wastes Managed: Lab reagents and chemicals.

Release Controls: Storage area is a closet inside a building, enclosed behind a locked door and is diked. All materials were left in their original bottles and containers. Prior to transport off-site, materials were packed in 1/2 barrel containers with chem-dry as packing material.

History of Release: No releases have been documented or reported.

Observations: SWMU was empty at the time of inspection. No signs of staining or releases were observed. The building in which the SWMU is located is now closed and locked.

SWMU #4: **PCB Storage Area**

Unit Description: PCB contaminated oil was transferred from facility transformers and motors in this area for shipment off-site. PCB contaminated oil drained into steel pans which was in turn transferred to a 55-gallon steel drum prior

	to shipment for disposal. The SWMU was located in a small building separate from the manufacturing facility.
Date of Start up:	1984.
Date of Closure:	1987.
Wastes Managed:	PCB contaminated oil.
Release Controls:	Transformers and motors were placed in metal pans on a concrete pad inside the building. PCB contaminated oil was then transferred from the pans to 55-gallon steel drums.
History of Release:	No releases have been documented or reported.
Observations:	Pans were clean and empty at the time of inspection and the building was fenced and locked. Ponded water surrounded the building at the time of inspection.
SWMU #5:	**Spent Solvents Storage Area**
Unit Description:	Spent solvents and paint waste were placed into a 55-gallon steel drum located in the Maintenance and Warehouse Building. A parts washer was also located at this location. Accumulated spent solvents were transported within 90 days by Chem Waste Management.
Date of Start up:	The first evidence of operations at the facility was a Permit A Hazardous Waste Facility Application dated August 18, 1980. However, interviews with facility employees indicate that this unit was operated prior to 1980.
Date of Closure:	The unit became inactive in December 1992.
Wastes Managed:	Spent solvents including 1,1,1 trichloroethane, methylene chloride, benzene, and carbon tetrachloride including some paint waste.
Release Controls:	Solvents were contained inside a 55-gallon steel drum stored on a concrete slab inside the warehouse building. Building floor drains are connected to the facility recycled process water system.
History of Release:	No releases have been documented or reported

Observations: All spent solvents had been removed from the facility at the time of inspection.

SWMU #6: **Baghouses and Bags**

Unit Description: Each of the phosphate manufacturing buildings contain vertical separators to remove phosphate dust from exhaust air. These baghouses and associated bags collected phosphate dust which was then recycled back into the phosphate manufacturing process.

Date of Start up: 1926.

Date of Closure: The unit became inactive in 1991.

Wastes Managed: Phosphate dust.

Release Controls: 23 steel bag houses and three kinds of bags (dependent on temperature of process) used to connect baghouses to augers that reintroduced the dust into the phosphate manufacturing process. All baghouses are located inside of buildings. Any material released inside the buildings is swept up and recycled back into the facility processes. During its operation, respirator use was mandatory to prevent inhalation of phosphate dust.

History of Release: During its operation, constant releases occurred from the baghouses resulting with very fine grained dust remaining in suspension in exhaust air. It was the responsibility of several plant personnel to sweep up released dust which was then recycled back into the plant process.

Observations: At the time of inspection there was a fine phosphate powder dust covering almost all of the floors in phosphate manufacturing buildings at the plant. Dead pigeons were observed in some buildings during the VSI. When the plant closed, the dust settled out of suspension and accumulated on floors and walls. In at least one area, the dust was several feet thick. Several locations in buildings on-site had signs noting that respirators were required when the plant was in production. This dust is routinely swept up and placed into the phosphate ponds on-site for recycling as fertilizer.

SWMU #7:	**Hazardous Waste Storage Pad #1**
Unit Description:	This unit consists of a diked concrete pad, measuring 120 x 18 feet and is located outside. When Olin originally filed a Part A Application as a TSD, this area was designated as a potential storage site. Although no hazardous wastes were stored at this unit, it was treated as a hazardous waste management unit in past regulatory correspondence with the IEPA and it could be used for such purposes by future operators.
Date of Start up:	1980.
Date of Closure:	1986.
Wastes Managed:	No hazardous wastes were ever stored at this location.
Release Controls:	The unit consists of an outdoor, diked concrete pad
History of Release:	No releases have been documented or reported.
Observations:	The storage area was in good condition at the time of inspection and is currently closed.
SWMU #8:	**Hazardous Waste Storage Pad #2**
Unit Description:	This unit consists of a diked concrete pad, measuring 20x26 feet and is located outside.
Date of Start up:	1980.
Date of Closure:	1986.
Wastes Managed:	Lab packs, and mercury and mercury contaminated clothing from a spill at the facility in 1983.
Release Controls:	The unit consisted of diked concrete pad and wastes managed there were in a sealed steel drum.
History of Release:	No releases have been documented or reported.
Observations:	SWMU was in good condition at the time of inspection and is currently closed.
SWMU #9:	**Sewage Treatment Facility & Sludge**
Unit Description:	Starting in the mid 1960s, the Olin Sanitary Treatment Facility managed sanitary waste

water from the facility. Incoming wastes were biologically treated. The sludge was routinely transported by truck to the Elwood Sanitary Sewage Plant by Vanderhyden Septic for processing with Elwood activated sludge. The effluent was chlorinated prior to discharge to the Des Plaines River.

Date of Start up: An exact date for start up could not be obtained. Facility representatives estimate that the unit began operation in 1965.

Date of Closure: The unit became inactive in 1991.

Wastes Managed: Sanitary sewer sludge.

Release Controls: No release controls are known.

History of Release: No releases have been documented or reported.

Observations: The sanitary sewer plant is no longer operating. All sludges had been removed at the time of inspection.

SWMU #10: **Sodium Phosphate Ponds**

Unit Description: Three sodium phosphate ponds called Total Retention Ponds #1, #2, #2A (TRP 1, TRP 2, TRP 2A) handle process waste water from the plant. Phosphate material in the process waters settle out in these ponds and is then recycled as fertilizer material. TRP #1 is 35 acres in size. Until 1971 it was a total retention pond as any by-product from plant processes were pumped there. Water from TRP #1 is pumped to the gypsum pile where it filters through and is then treated at the SWTF. It is permitted as an inorganic holding reservoir holding sodium phosphates. TRP 2 is a 31 acre sodium phosphate pond being mined for phosphates for permitted fertilizer supplements. TRP 2A is a 7 acre pond for SWTF clarifier sludge. It may be used as a fertilizer supplement. Water from these ponds is processed through the SWTF prior to discharge into the Des Plaines River. If necessary, the water can be pumped to the gypsum pile prior to processing by the SWTF.

Date of Start up: TRP #1, 1970; TRP #2, 1973; TRP #2A, 1983.

Wastes Managed: Phosphate material in the recycled process waters and sludges from the SWTF.

Release Controls: Ponds are bermed and lined with a five foot clay layer.

History of Release: No releases have been documented or reported.

Observations: The ponds were in good condition at the time of the VSI. About, three to five feet of water was in the ponds with approximately four feet of free board to the top of the berms. Phosphate mining is currently being handled by an outside contractor.

SWMU #11: **Storm Water Treatment Facility**

Unit Description: The Storm Water Treatment Facility (SWTF) was built in 1979 and treats water from the west pond, phosphate ponds and the gypsum pile prior to discharge to the Des Plaines River. Sulfuric acid and lime are used to adjust pH and a flocculant is added to precipitate any solids from the water prior to discharge. Sludge from the SWTF is pumped to TRP #2A.

Date of Start up: 1979.

Wastes Managed: Storm water runoff from the storm water runoff ponds, phosphate ponds, gypsum pile, and facility grounds. The SWTF also manages phosphate sludges which are pumped to TRP #2A.

Release Controls: The SWTF was built on a concrete slab and a majority of the unit is indoors.

History of Release: No releases have been documented or reported.

Observations: The SWTF was in operation at the time of the VSI and was in good condition.

4.0 AREAS OF CONCERN

Twelve AOCs were identified during the PA/VSI(See Figures 3 & 5 for AOC locations):

AOC #1: **3 Ponds for Storm Water Runoff**

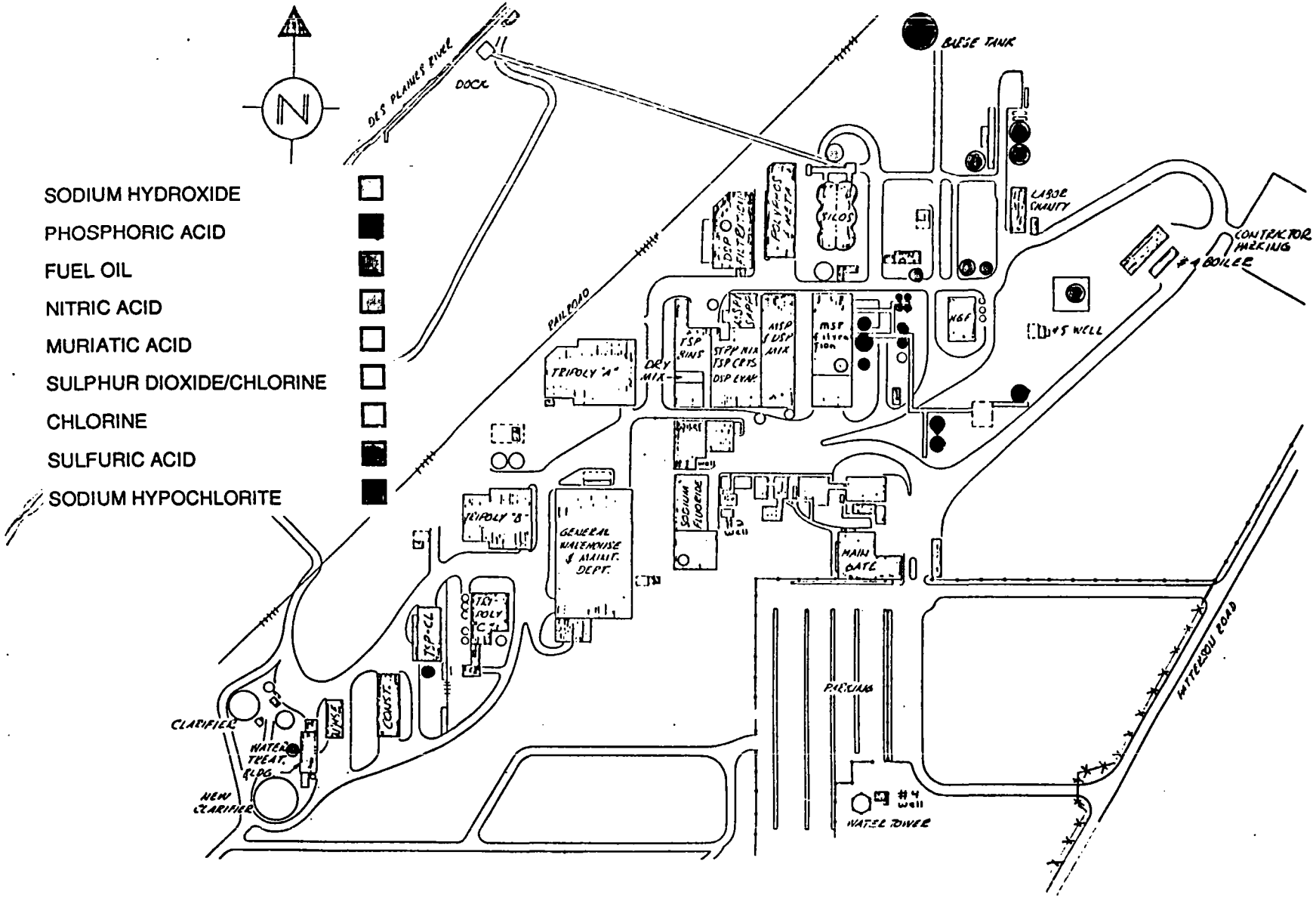
Description: Three ponds on the facility property collect storm water runoff. The three ponds are designated as south, north, and west. The south and north ponds collect storm water runoff from the east side of the facility. A storm water drainage ditch/culvert runs across the site from the south pond to the north pond on the east side of the site. The north pond has two outfalls. One is to the Des Plaines River and the other is to the west pond. Typically the north pond discharges to the river. This water is analyzed for pH, phosphate alkalinity, total alkalinity, total hardness, calcium, magnesium, chlorine, sulfate, silica, conductivity, sodium, fluoride, total soluble inorganic phosphate, soluble ortho phosphate, and soluble poly phosphate. If water discharging from the north pond fails any of these tests, it can be pumped to the west pond where it is treated by the SWTF prior to discharge. Surface water runoff from the west side of the facility (which includes most of the production buildings), phosphate ponds, and gypsum pile enters the storm sewer which runs to the west pond prior to treatment at the Storm Water Treatment Facility. The water is then treated and discharged into the Des Plaines River. NPDES permits cover both the north pond outfall and the Storm Water Treatment Facility outfall.

AOC #2: **Clean Solvent Storage Area.**

Description: The clean solvent storage area was located in the Maintenance & Warehouse building and contained virgin solvents, paints, turpentine, and oil.

AOC #3: **Gypsum pile**

Description: The gypsum pile is a 200 acre site and was built in 1959 for the phosphoric acid plant. Applying sulfuric acid to the gypsum pile generates phosphoric acid which was used manufacture various phosphates. Presently, water is applied to the pile to keep it wet



Metcalf & Eddy	OLIN CORPORATION AOCs #7 -#15 JOLIET, ILLINOIS	Project Number 153068-1-626 Figure 5

and maintain its stability. Water flow through the pile is treated at the SWTF prior to discharge to the Des Plaines River. The pile was closed in 1985.

AOC #4: **Sodium Hydroxide Tanks**

Description: Two tanks contained sodium hydroxide used in the production of phosphates. One tank is located outside on a diked concrete pad. The other tank is located inside the Monosodium Phosphate filtration building and is also surrounded by diking. The tanks were empty at the time of the VSI.

AOC #5: **Phosphoric Acid Tanks**

Description: Thirteen tanks contained phosphoric acid used in the production of phosphates. All tanks are located on concrete pads and are surrounded by either diking or earthen berms. The tanks were empty at the time of the VSI.

AOC #6: **Fuel Oil Tank**

Description: One fuel oil tank is located at the facility. It contained type C diesel fuel as a backup fuel for the natural gas fired boiler #4 and the High Grade Fertilizer plant. The tank is on a concrete pad surrounded by an earthen berm. The tank was empty at the time of the VSI.

AOC #7: **Nitric Acid Tank**

Description: One tank located inside the DSP Filtration building supplied nitric acid used in the production of phosphates. The tank is inside the building and is on a diked concrete pad. The tank was empty at the time of the VSI.

AOC #8: **Muriatic Acid Tank**

Description: One tank contained muriatic acid for the production of phosphates. It is located outside the Monosodium Phosphate & Disodium Phosphate Mixing building on a diked concrete pad. The tank was empty at the time of the VSI.

AOC #9: **Sulfur Dioxide & Chlorine Cylinders**

Description: Several 1 ton cylinders of sulfur dioxide and chlorine used in the production of phosphates

were stored in a shed on the west side of the DSP Filtration building. The shed has a concrete foundation. No tanks were observed in the area during the VSI.

AOC #10: **Chlorine Tank**

Description: A railroad tank car of chlorine was used in the production of chlorinated trisodium phosphates. The car was located on tracks outside the TSP CL building and had no secondary containment. The tank car had been removed at the time of the VSI.

AOC #11: **Sulfuric Acid Tanks**

Description: Seven sulfuric acid tanks are located at the facility. Acid stored in these tanks was used in the production of phosphates or in the treatment of storm water runoff. All tanks are located on concrete pads and are surrounded by concrete diking or earthen berms. The tanks were empty at the time of the VSI with the exception of one tank used by the SWTF.

AOC #12: **Sodium Hypochlorite Tank**

Description: One tank contained sodium hypochlorite for the production of phosphate. It is located outside the TSP CL building on a diked concrete pad. The tank was empty at the time of inspection.

5.0 CONCLUSIONS AND RECOMMENDATIONS

The PA/VSI identified 11 SWMUs and 12 AOCs at the Olin Corporation facility in Joliet, Illinois. The following are Metcalf and Eddy's conclusions and recommendations for each SWMU and AOC. (See Table 3 for a summary of suggested further actions for all SWMUs and AOCs.)

SWMU #1: **Waste Oil Storage Area**

Conclusions: The potential for a release to occur to groundwater, surface water, soil, and air from this unit is low. The waste oil storage area is indoors, on a curbed concrete pad. At the time of inspection the storage tank was empty.

Recommendations: M&E recommends no further action at this time.

SWMU #2: **Empty Drum Storage**

Conclusions: The potential for a release to occur to groundwater, surface water, soil, and air from this unit is low. The waste drum storage area is indoors, on a curbed concrete pad. This pad drains to the facility recycled process water system. At the time of inspection there were no drums in the storage area.

Recommendations: M&E recommends no further action at this time.

SWMU #3: **Lab Pack Storage Area**

Conclusions: The potential for a release to occur to groundwater, surface water, soil, and air from this unit is low. The unit is indoors, on a curbed concrete pad. At the time of inspection the unit was empty.

Recommendations: M&E recommends no further action at this time.

SWMU #4: **PCB Storage Area**

Conclusions: The potential for a release to occur to groundwater, surface water, soil, and air from this unit is low. The unit is located in a small building that provided an indoor collection point for PCB contaminated oil from facility transporters. PCB contaminated

oil was drained from the transformers onto a steel pan which was situated on a concrete pad. The waste was then drained into a 55-gallon steel drum prior to shipment off-site. The building is fenced and locked to prevent unauthorized entry. At the time of inspection the building was in good condition and the transfer pans were empty.

Recommendations: M&E recommends no further action at this time.

SWMU #5: Spent Solvents Storage Area

Conclusions: The potential for a release to occur to groundwater, surface water, soil, and air from this unit is low. The waste oil storage area is indoors, on a curbed concrete pad. At the time of inspection all spent solvents had been removed and the unit was inactive.

Recommendations: M&E recommends no further action at this time.

SWMU #6: Baghouses and Bags

Conclusions: The potential for a release to occur to groundwater, surface water, soil, and air from this unit is moderate. Most of the baghouses are indoors. Baghouses on roofs of buildings had shelters built over them. At the time of inspection all baghouses were inactive. However, there was phosphate dust at each of the baghouse locations. While this dust seems to be a hazard only to pigeons that get into facility buildings, a release from one of the buildings could contaminate area groundwater.

Recommendations: M&E recommends that Olin remove residual phosphates at all of the baghouse sites.

SWMU #7: Hazardous Waste Storage Pad

Conclusions: The potential for a release to occur to groundwater, surface water, soil, and air from this unit is low. The unit is outdoors, on a curbed concrete pad. At the time of inspection the unit was empty.

Recommendations: M&E recommends no further action at this time.

SWMU #8: **Hazardous Waste Storage Pad**

Conclusions: The potential for a release to occur to groundwater, surface water, soil, and air from this unit is low. The unit is outdoors, on a curbed concrete pad. At the time of inspection the unit was empty.

Recommendations: M&E recommends no further action at this time.

SWMU #9: **Sewage Treatment Facility & Sludge**

Conclusions: The potential for past releases to occur to groundwater, surface water, soil, and air from this unit is moderate. The unit was outdoors, with no secondary containment. The potential for current releases to groundwater, surface water, soil, or air is low. At the time of inspection the unit was inactive.

Recommendations: M&E recommends construction of secondary containment if the plant resumes operation.

SWMU #10: **Sodium Phosphate Ponds**

Conclusions: The potential for a release to occur to groundwater, surface water, soil, and air from this unit is low. The ponds are bermed and all runoff is treated at the SWTF.

Recommendations: M&E recommends no further action at this time.

SWMU #11: **Storm Water Treatment Facility**

Conclusions: The potential for a release to occur to groundwater, surface water, soil, and air from this unit is low. The majority of the unit is indoors, on curbed concrete pads. At the time of inspection the unit was working and observed to be in good condition.

Recommendations: M&E recommends no further action at this time.

AOC #1: **3 Ponds for Storm Water Runoff**

Conclusions: The potential for a release to occur to groundwater, surface water, soil, and air from this unit is low. The ponds are bermed and west pond water is treated at the SWTF.

	North and south pond runoff can be treated at the SWTF if necessary.
Recommendations:	M&E recommends no further action at this time.
AOC #2:	**Clean Solvent Storage Area.**
Conclusions:	The potential for a release to occur to groundwater, surface water, soil, and air from this unit is low. The unit is indoors, on a concrete pad. At the time of inspection the unit had approximately 8 drums of virgin solvent, 12 drums of virgin mineral oil, and 4 drums of used oil in storage. The used oil located in the unit area was in the process of being shipped off-site.
Recommendations:	M&E recommends no further action at this time.
AOC #3:	**Gypsum pile**
Conclusions:	The potential for a release to occur to groundwater, surface water, soil, and air from this unit is low. The ponds are bermed and all runoff is treated at the SWTF.
Recommendations:	M&E recommends no further action at this time.
AOC #4:	**Sodium Hydroxide Tanks**
Conclusions:	The potential for a release to occur to groundwater, surface water, soil, and air from this unit is low. The tanks are currently empty and are situated on a diked concrete pad.
Recommendations:	M&E recommends no further action at this time.
AOC #5:	**Phosphoric Acid Tanks**
Conclusions:	The potential for a release to occur to groundwater, surface water, soil, and air from this unit is low. The tanks are currently empty and situated on a diked concrete pad.
Recommendations:	M&E recommends no further action at this time.

AOC #6: **Fuel Oil Tank**

Conclusions: The potential for a release to occur to groundwater, surface water, soil, and air from this unit is low. The tank is currently empty and situated on a concrete pad inside a bermed area.

Recommendations: M&E recommends no further action at this time.

AOC #7: **Nitric Acid Tank**

Conclusions: The potential for a release to occur to groundwater, surface water, soil, and air from this unit is low. The tank is currently empty and situated on a diked concrete pad.

Recommendations: M&E recommends no further action at this time.

AOC #8: **Muriatic Acid Tank**

Conclusions: The potential for a release to occur to groundwater, surface water, soil, and air from this unit is low. The tank is currently empty and is situated on a diked concrete pad.

Recommendations: M&E recommends no further action at this time.

AOC #9: **Sulfur Dioxide & Chlorine Cylinders**

Conclusions: The potential for a release to occur to groundwater, surface water, soil, and air from this unit is low due to the fact that all tanks have been removed.

Recommendations: M&E recommends no further action at this time.

AOC #10: **Chlorine Tank**

Conclusions: The potential for a release to occur to groundwater, surface water, soil, and air from this unit is low due to the fact that the tank car has been removed.

Recommendations: M&E recommends no further action at this time.

AOC #11: **Sulfuric Acid Tanks**

Conclusions: The potential for a release to occur to groundwater, surface water, soil, and air from this unit is low. All but one of the tanks are currently empty and are situated on diked concrete pads.

Recommendations: M&E recommends no further action at this time.

AOC #12: **Sodium Hypochlorite Tank**

Conclusions: The potential for a release to occur to groundwater, surface water, soil, and air from this unit is low. The tank is currently empty and is situated on a diked concrete pad.

Recommendations: M&E recommends no further action at this time.

TABLE 3
SWMUs, AOCs, AND SUGGESTED FURTHER ACTIONS

SWMU	Operational Dates	Evidence of Release	Suggested Action
1	1980 to 1991**	None	None
2	1982 to 1991**	None	None
3	1980* to 1991**	None	None
4	1984 to 1987	None	None
5	1980* to 1992**	None	None
6	1926 to 1991**	None	Remove residual phosphates
7	1980 to 1986	None	None
8	1980 to 1986	None	None
9	1965*** to 1991**	None	Secondary containment (If plant resumes operation)
10	1970 to present	None	None
11	1979 to present	None	None

AOC	Operational Dates	Evidence of Release	Suggested Action
1	1980 to present	None	None
2	1980* to present	None	None
3	1959 to present	None	None
4	1930*** to 1991	None	None
5	1930*** to 1991	None	None
6	1940*** to 1991	None	None
7	1930*** to 1991	None	None

AOC	Operational Dates	Evidence of Release	Suggested Action
8	1930*** to 1991	None	None
9	1944*** to 1991	None	None
10	1957 to 1991	None	None
11	1942 to 1991	None	None
12	1957 to 1991	None	None

Notes:

* The first evidence of operations at the facility was a Permit A Hazardous Waste Facility Application dated August 18, 1980. However, interviews with facility employees indicate that the units have been in operation prior to 1980.

** The main plant was shut down in June 1991. As a result, most SWMUs are inactive (with the exception of the Sewage Water Treatment Facility) but not RCRA closed. Final closure or SWMU status will not be clarified until the transfer of the property is completed in 1995.

*** This indicates that this date is only an estimate by facility employees.

REFERENCES

1. U.S. EPA, March 27, 1980, Potential Hazardous Waste Site Identification and Preliminary Assessment for the Olin Joliet.

2. U.S. EPA, July 28, 1980, Potential Hazardous Waste Site Tentative Disposition for the Olin-Joliet.

3. Olin Corporation, August 18, 1980, Notification of Hazardous Waste Activity.

4. U.S. EPA, September 28, 1980, notification of Olin's hazardous waste identification number.

5. Olin Corporation, November 17, 1980, Part A Application.

6. U.S. EPA, November 19, 1980, RCRA Inspection on Interim Status Standards for Treatment, Storage, and Disposal Facilities, Generators, and Storage facilities.

7. U.S. EPA, December 11, 1980, Record of communication on inspection of 11-19-80.

8. U.S. EPA, December 19, 1980, letter to Olin with an attached copy of the inspection report of 11-19-80.

9. U.S. EPA, January 27, 1981, form indicating that Olin - Joliet meets all necessary requirements for Interim Status.

10. U.S. EPA, February 19, 1981, Interoffice Communication on Olin compliance at the Joliet facility.

11. U.S. EPA, March 11, 1980, Notification of Violation letter to Olin.

12. Olin Corporation, March 27, 1981, reply to the Notice of Violation.

13. U.S. EPA, July 1, 1981, Communication with Olin deleting the S02 filing from the original Part A filing.

14. U.S. EPA, September 28, 1981, Master Facility Listing for the Joliet facility.

15. Olin Corporation, January 28, 1982, Application for an IEPA permit to develop and operate a TSD.

16. IEPA, February 11, 1982, Pre-development inspection notes.
17. IEPA, February 19, 1982, Memorandum on the inspection of 2-11-82.

18. U.S. EPA, April 5, 1982, Interim Status Acknowledgement to Olin.

19. IEPA, April 27, 1982, Development permit to store special wastes.

20. Olin Corporation, May 5, 1982, Request for an operating permit for the Hazardous Waste Storage Area from IEPA.

21. IEPA, May 18, 1982, notified the Village of Rockdale that Olin has requested an operating permit for a Hazardous Waste Storage Area.

22. IEPA, May 26, 1982, Memorandum on Pre-operation inspection was conducted at the Joliet facility on May 25, 1982.

23. IEPA, June 18, 1982, Letter granting an operating permit to Olin for a Hazardous Waste Storage Area.

24. Olin Corporation, July 28, 1983, Responses to RCRA and NPDES Permitting Programs.

25. Olin Corporation, September 19, 1983, notification to the IEPA of amendments to its permit.

26. Olin Corporation, September 22, 1983, notification to the U.S. EPA of revisions in its Part A Application.

27. U.S. EPA, October 6, 1983, memo to the file.

28. U.S. EPA, January 9, 1984, request for a formal Part A withdrawal from Olin for the Joliet facility.

29. Olin Corporation, January 23, 1984, response to the U.S. EPA letter of 1-9-84.

30. U.S. EPA, February 2, 1984, Record of communication.

31. U.S. EPA, February 14, 1984, Conversation Record with Olin confirming Olin's small quantity generator status.

32. U.S. EPA, February 29, 1984, request for additional information from Olin to support Part A Application withdrawal request.

33. U.S. EPA, March 1, 1984, Memo on additional information letter of 2-29-84.

34. Olin Corporation, March 28, 1984, response to U.S. EPA information request.

35. U.S. EPA, April 3, 1984, Memo on small quantity generator status of OLIN.

36. IEPA, On March 11, 1986, letter informing Olin of a discrepancy in generator codes used by Olin.

37. Olin Corporation, November 25, 1986, informed the U.S. EPA that the PCB storage area had ceased operations.

38. U.S. EPA, December 10, 1986, memo on Olin - Joliet's Part A withdrawal.

39. IEPA, January 23,1989, letter informing Olin that in June 1989 the permit for special waste disposal, treatment, or storage would expire.

40. IEPA, February 11, 1991, Reminder of new rules (9-18-90) for governing design and operation of all new and existing landfills.

41. Olin Corporation, February 27, 1991, response to the IEPA letter of 2-11-91.

42. Olin Corporation, April 30,1991, letter informing the IEPA of the transfer of Olin's industrial phosphate business to Albright and Wilson Americas, its phosphate joint venture partner.

43. IEPA, May 2, 1991, NPDES permit for discharges from the plant.

44. Olin Corporation, May 9, 1991, Petition to the Illinois Pollution Control Board for a variance of regulations covering air emissions.

45. Olin Corporation, June 29, 1991, EPA Form R, Toxic Chemical Release Reporting.

46. Olin Corporation, July 3, 1991, Letter informing the IEPA of the facility's inactive status.

47. IEPA, August 2, 1991, letter accepting a biomonitoring plan pertaining to the Olin Waste Water Treatment Plant.

48. Olin Corporation, February 21, 1992, a 1991 Illinois Hazardous Waste Report.

49. Olin Corporation, February 24, 1992, Tier Two Emergency and Hazardous Chemical Inventory Form.

50. Olin Corporation, April 1992, Olin Spill Prevention and Countermeasure Plan for the Joliet facility with IEPA.

51. IEPA, December 15, 1992, letter informing the U.S. EPA that it was withdrawing the PCB variance for PCB storage at the Olin-Joliet facility.

52. Joe Carroll, Olin Corporation representative, telephone memorandums on 2/16/93, 2/18/93, 2/22/93, 2/23/93, 2/24/93, 2/25/93.

APPENDIX A

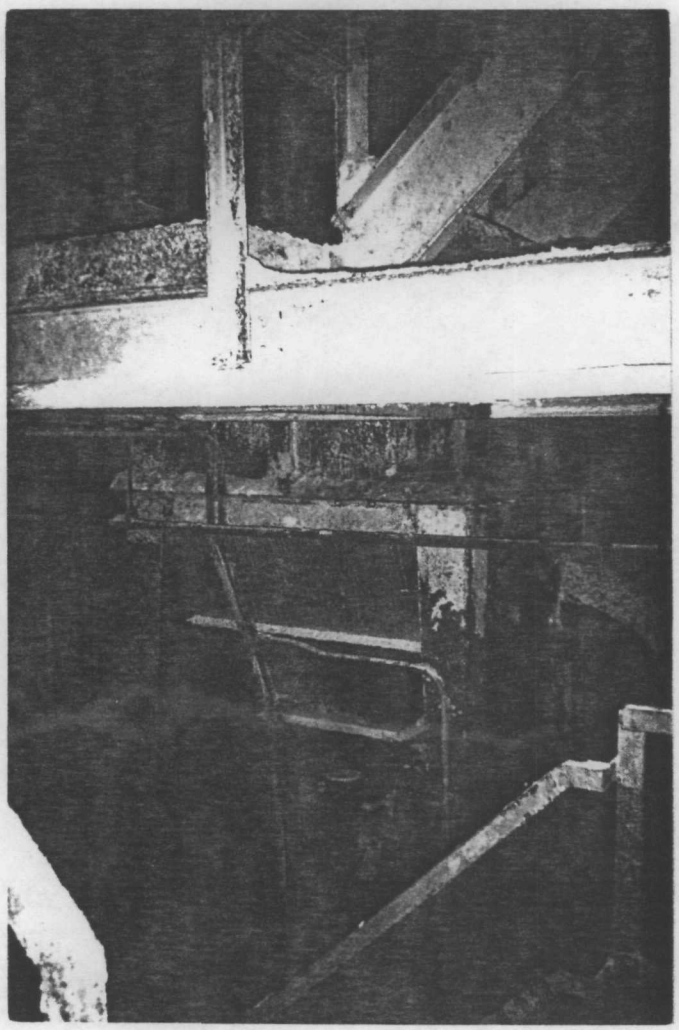
VISUAL SITE INSPECTION SUMMARY AND PHOTOGRAPH LOG

VISUAL SITE INSPECTION SUMMARY
OLIN CORPORATION
JOLIET, ILLINOIS

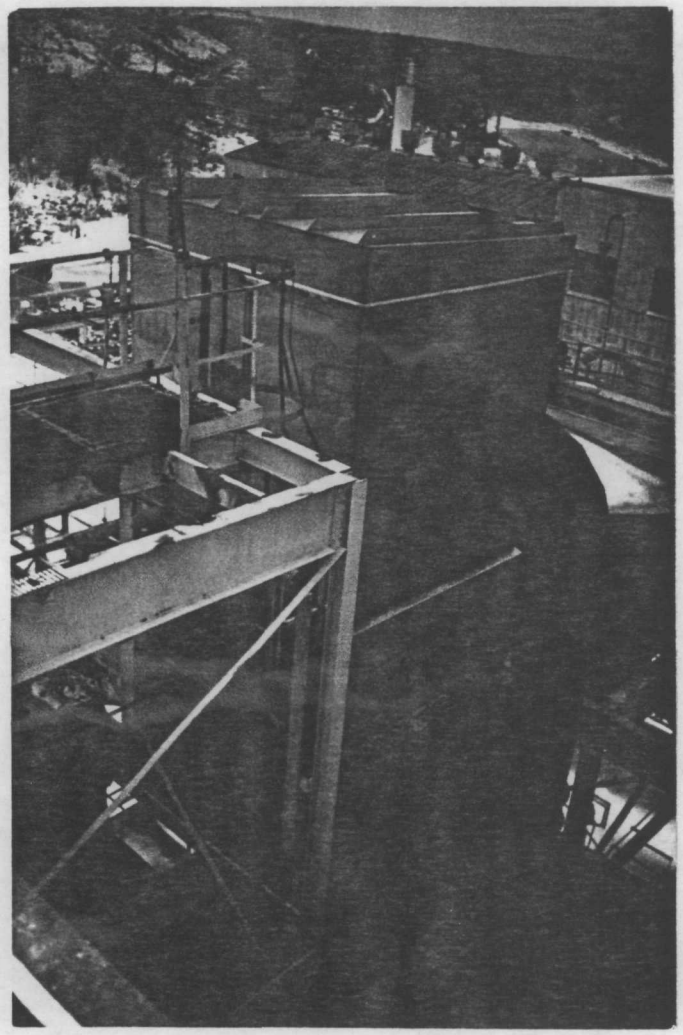
Date:	January 20, 1993.
Facility Representatives:	Vicki Ray, Olin Corporation. Joe Carroll, Olin Corporation. George Thompson, Olin Corporation
State Representative:	None present.
Inspector:	Jeff Miller, Metcalf and Eddy. Tim Temple, Metcalf and Eddy.
Weather Conditions:	Cloudy, approximately 32 degrees, light breeze. Rain showers in the late afternoon.

Summary: The VSI began at 9:00 a.m. on January 20, 1993. The site representatives met with the inspector to help provide information on prior site activities and conditions, release history, receptors and data gaps.

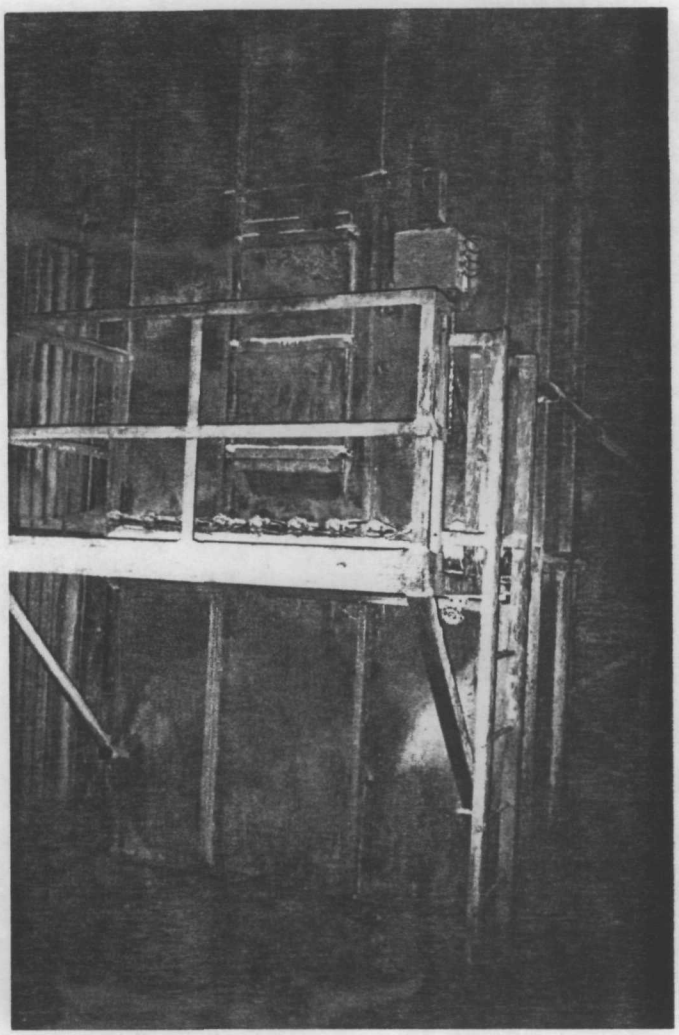
A site walk-through was conducted at 1:00 p.m. to identify the former locations of SWMUs and potential AOCs determined during the initial file review. The potential for release of hazardous substances to the environment and probable pathways were assessed during the site inspection. Photographs were taken in the area of all past SWMUs and potential AOCs. Permission was granted by Olin Corporation to inspect and take photos.



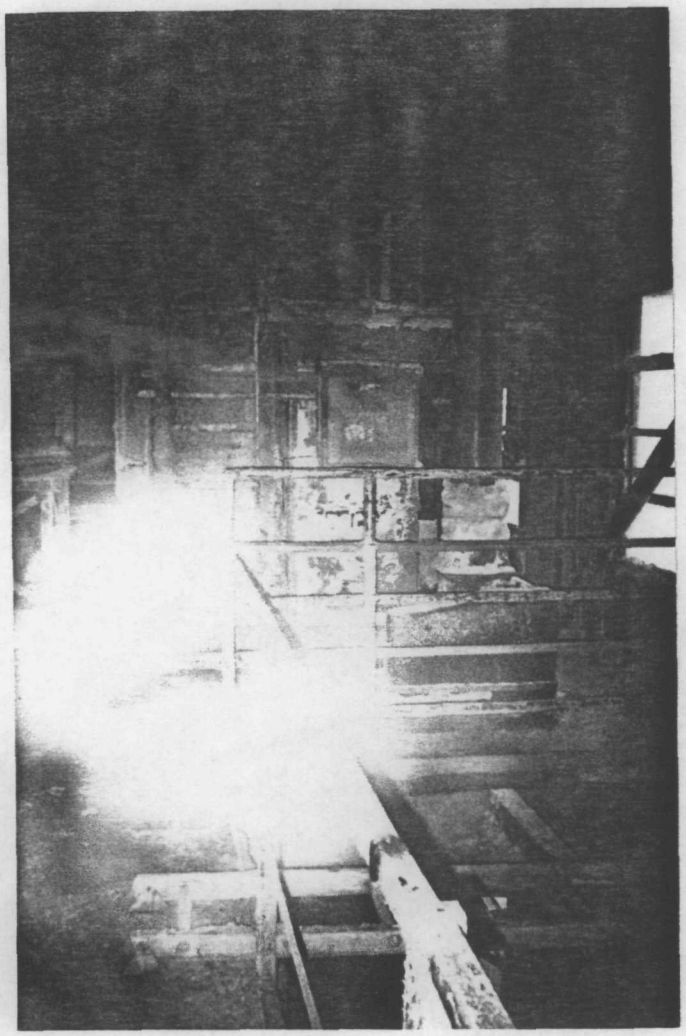
Location: Olin Joliet Facility
Subject: SWMU #6 Baghouse #1 (BH1) in the STPP-C building
Photographer: Tim Temple (M&E)
Camera: Vivitar 35C1 Witness: Joe Carroll (Olin)
Date: 20 January 1993 Time: 1310 Film: Kodak ASA 200
Logbook Photo #: 1 Direction: West



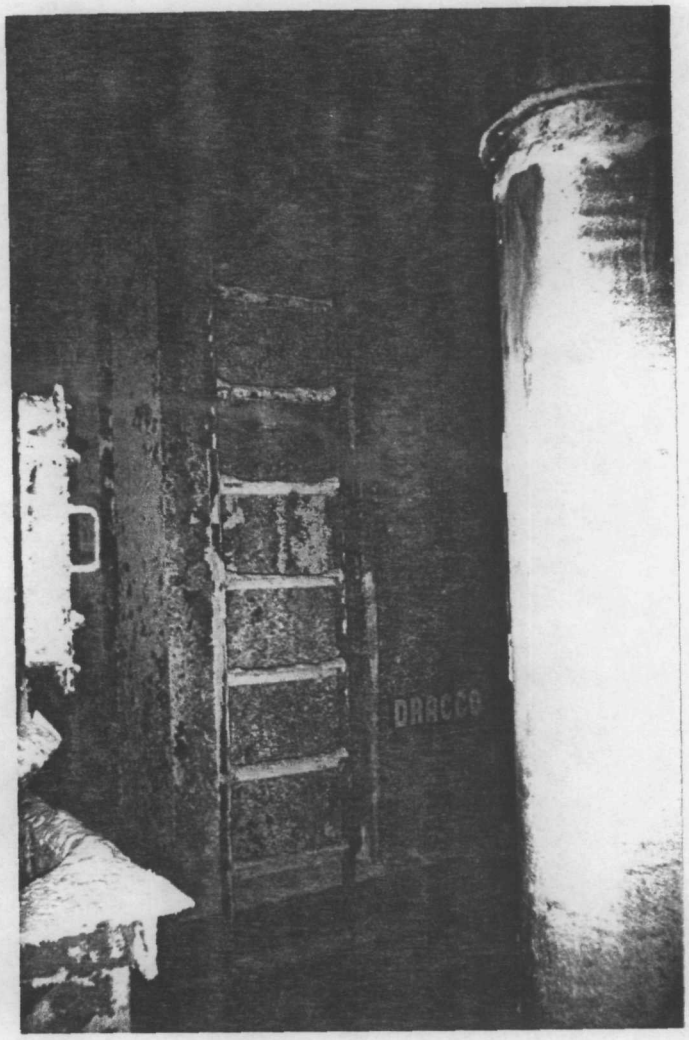
Location: Olin Joliet Facility
Subject: SWMU #6 Baghouse #2 (BH2) southwest corner of the STPP-C building
Photographer: Tim Temple (M&E)
Camera: Vivitar 35C1 Witness: Joe Carroll (Olin)
Date: 20 January 1993 Time: 1313 Film: Kodak ASA 200
Logbook Photo #: 2 Direction: Southwest



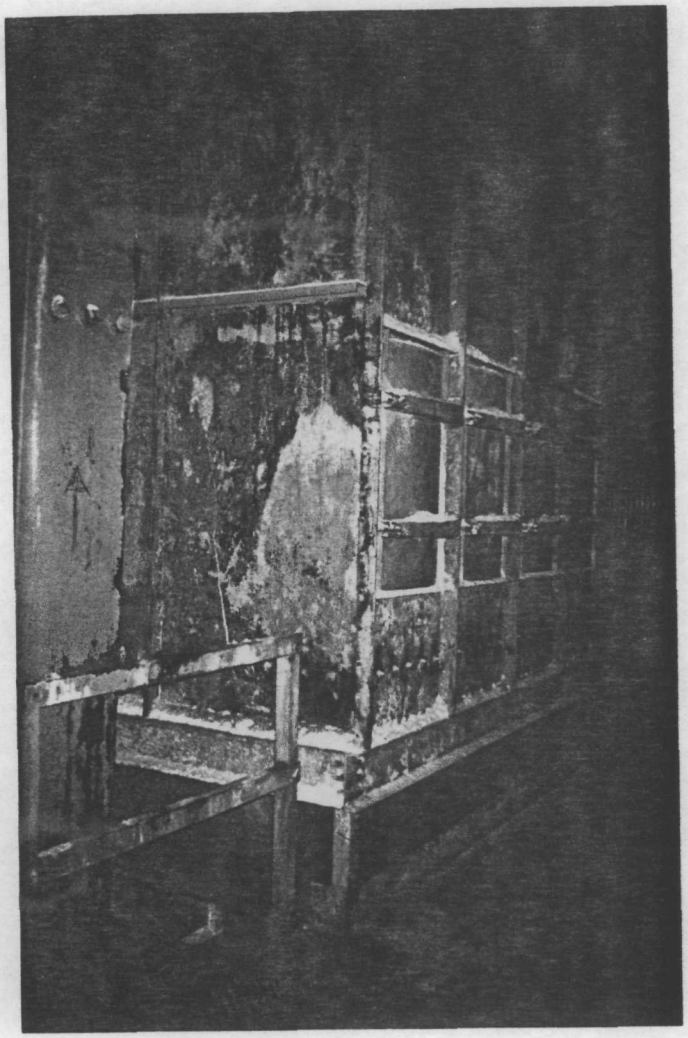
Location: Olin Joliet Facility
Subject: SWMU #6 Baghouse #3 (BH3), 6th floor of STPP-C building
Photographer: Tim Temple (M&E)
Camera: Vivitar 35C1 Witness: Joe Carroll (Olin)
Date: 20 January 1993 Time: 1315 Film: Kodak ASA 200
Logbook Photo #: 3 Direction: East



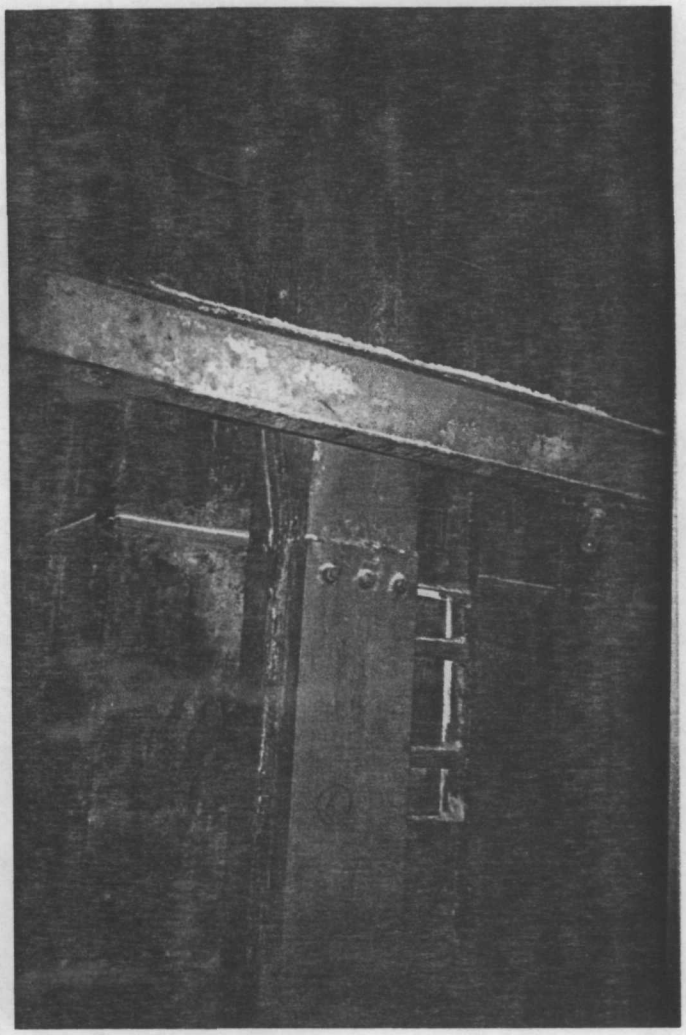
Location: Olin Joliet Facility
Subject: SWMU #6 Baghouse #4 (BH4), 6th floor of STPP-C building
Photographer: Tim Temple (M&E)
Camera: Vivitar 35C1 Witness: Joe Carroll (Olin)
Date: 20 January 1993 Time: 1315 Film: Kodak ASA 200
Logbook Photo #: 4 Direction: West



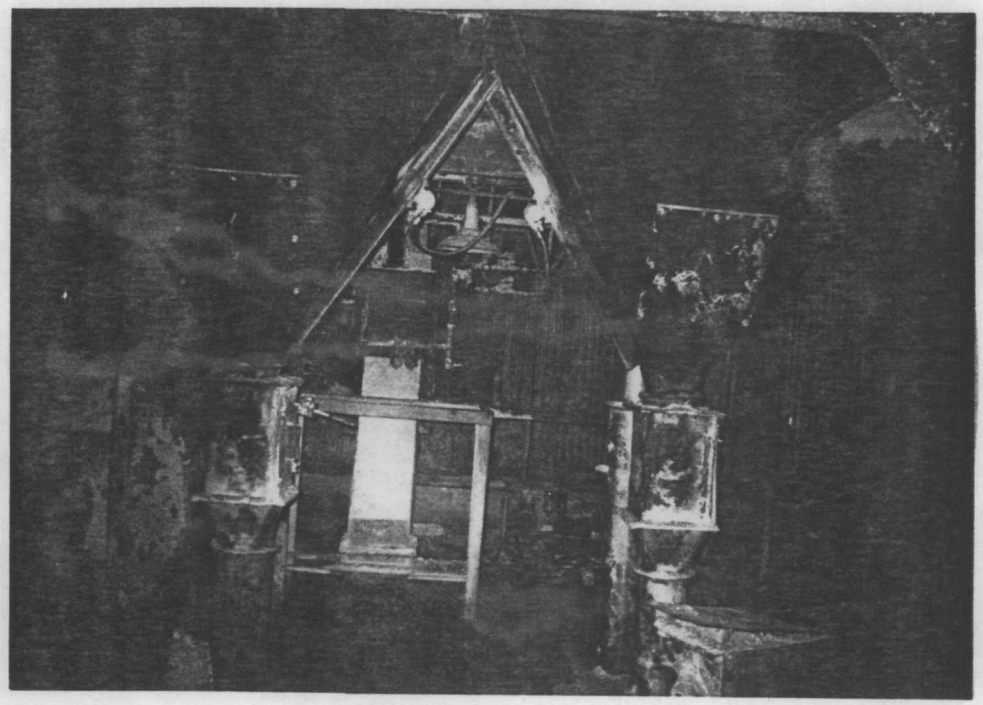
Location: Olin Joliet Facility
Subject: SWMU #6 Baghouse #5 (BH5), 6th floor of STPP-C building
Photographer: Tim Temple (M&E)
Camera: Vivitar 35C1 Witness: Joe Carroll (Olin)
Date: 20 January 1993 Time: 1315 Film: Kodak ASA 200
Logbook Photo #: 5 Direction: North



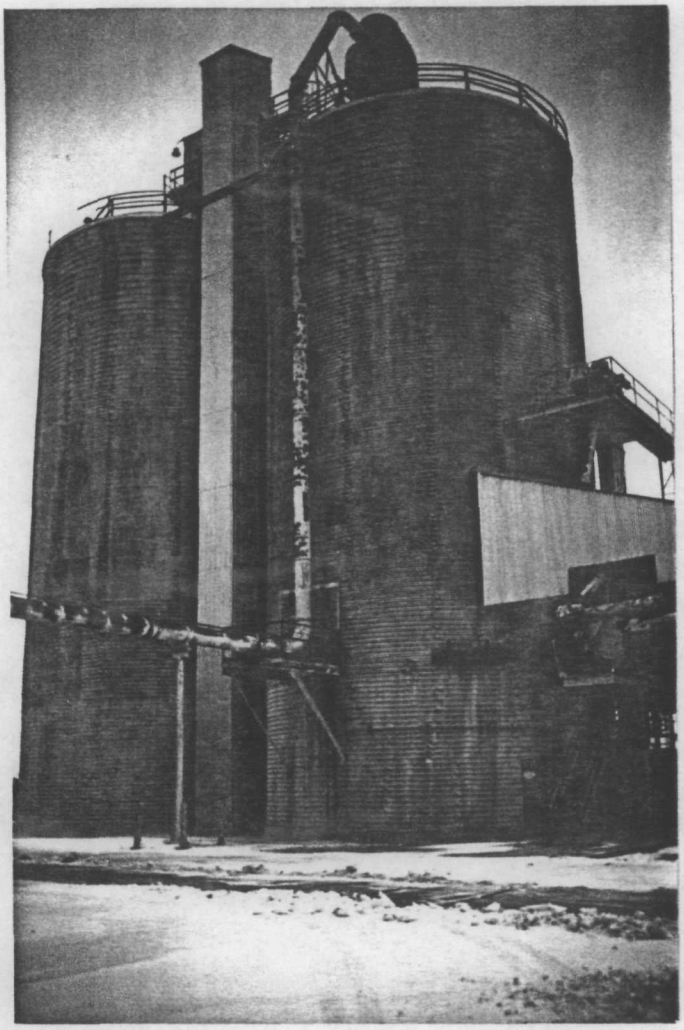
Location: Olin Joliet Facility
Subject: SWMU #6 Baghouse #6 (BH6) in STPP-B building
Photographer: Tim Temple (M&E)
Camera: Vivitar 35C1 Witness: Joe Carroll (Olin)
Date: 20 January 1993 Time: 1325 Film: Kodak ASA 200
Logbook Photo #: 6 Direction: South



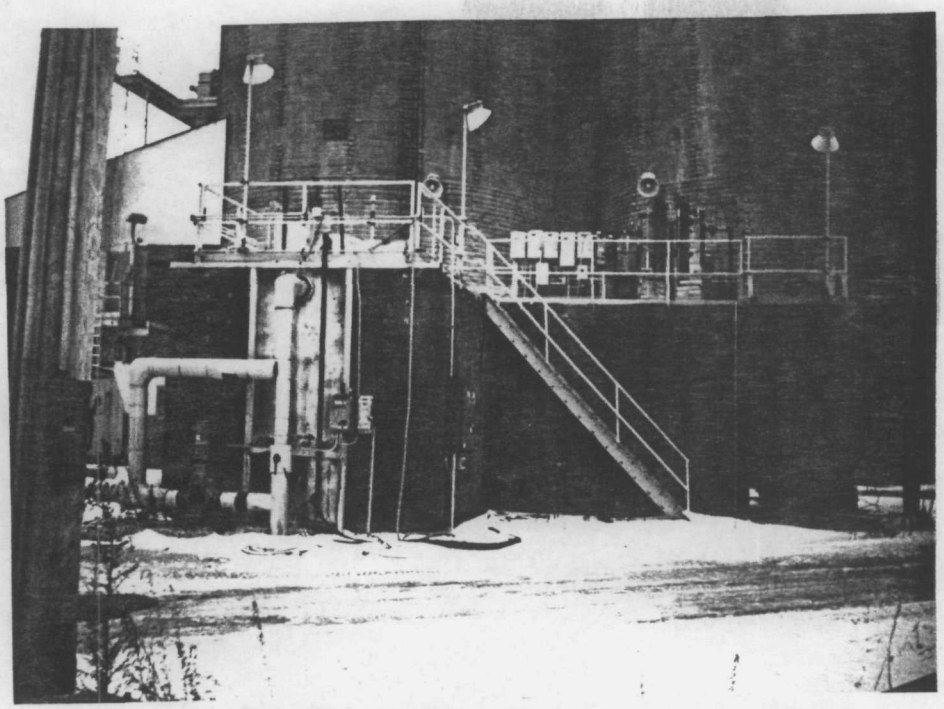
Location: Olin Joliet Facility
Subject: SWMU #6 Baghouse #7 (BH7) in STPP-B building
Photographer: Tim Temple (M&E)
Camera: Vivitar 35C1 Witness: Joe Carroll (Olin)
Date: 20 January 1993 Time: 1325 Film: Kodak ASA 200
Logbook Photo #: 7 Direction: East



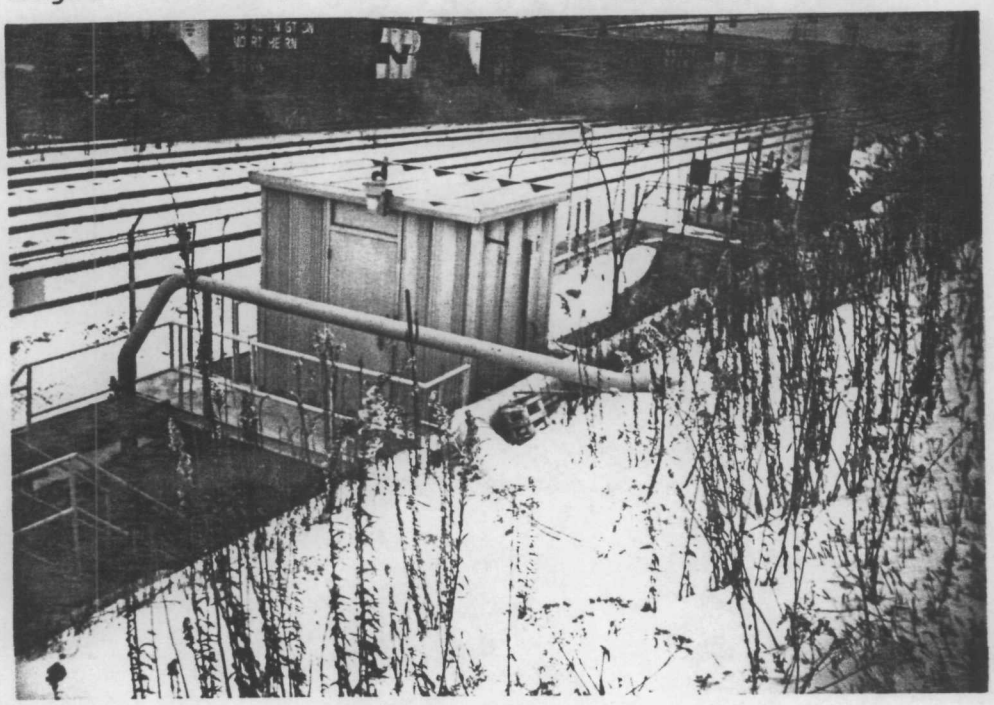
Location: Olin Joliet Facility
Subject: SWMU #6 Hoppers and augers for BH7 which are part of the reclaim system
Photographer: Tim Temple (M&E)
Camera: Vivitar 35C1 Witness: Joe Carroll (Olin)
Date: 20 January 1993 Time: 1325 Film: Kodak ASA 200
Logbook Photo #: 8 Direction: East



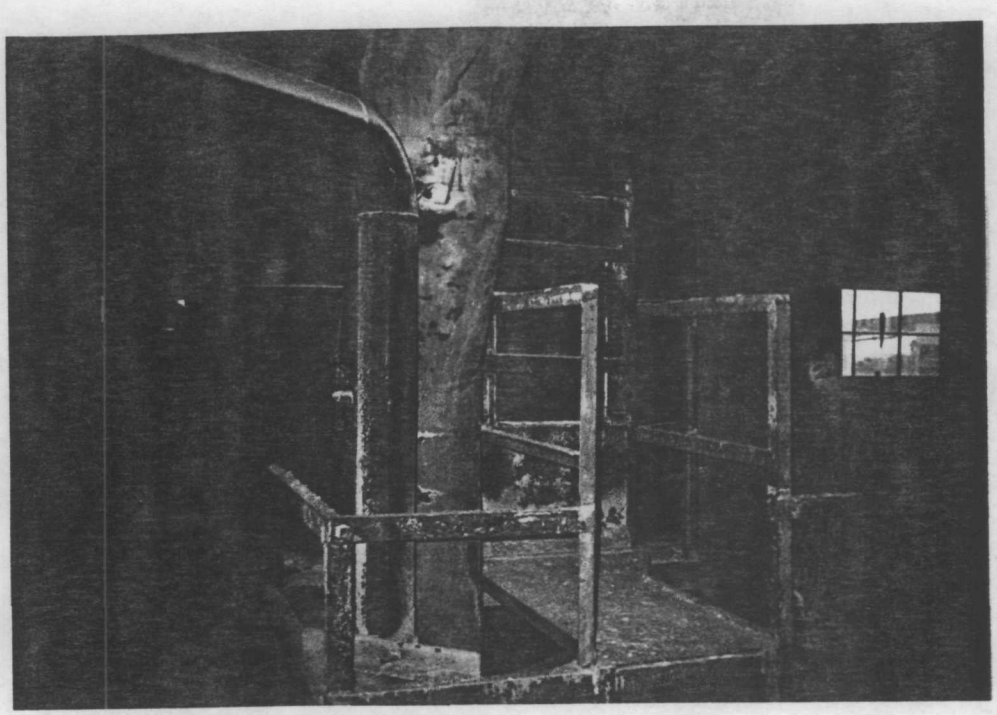
Location: Olin Joliet Facility
Subject: SWMU #6 80' Silos north of the STPP-B building. Baghouse #8 (BH8) was located on top of the silos.
Photographer: Tim Temple (M&E)
Camera: Vivitar 35C1 Witness: Joe Carroll (Olin)
Date: 20 January 1993 Time: 1335 Film: Kodak ASA 200
Logbook Photo #: 9 Direction: North



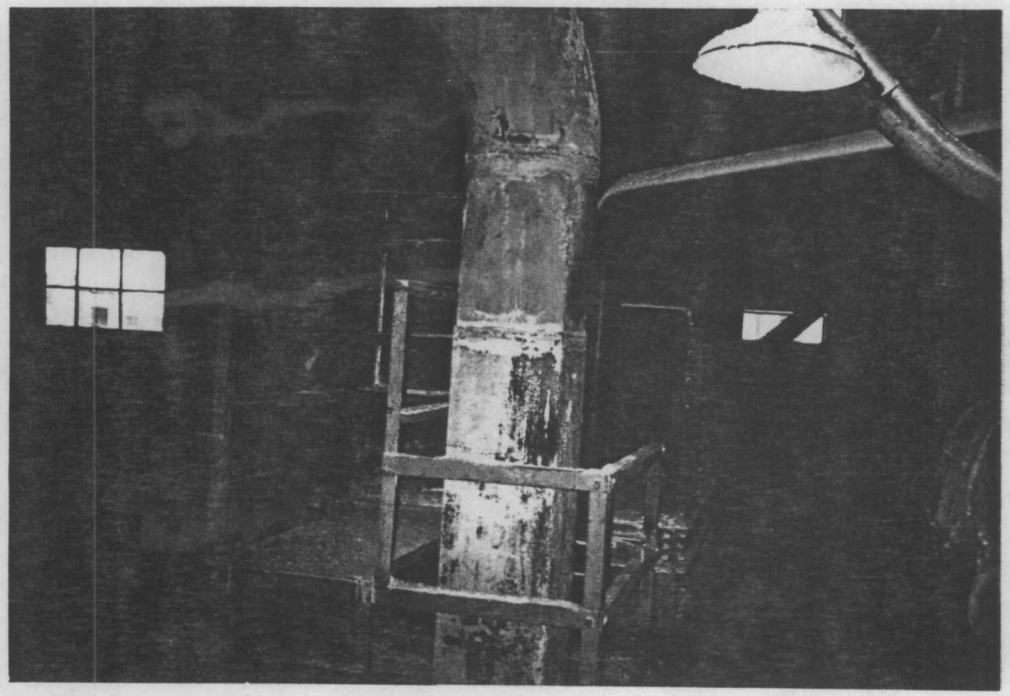
Location: Olin Joliet Facility
Subject: SWMU #9 Sewage treatment plant (inactive)
Photographer: Tim Temple (M&E)
Camera: Vivitar 35C1 Witness: Joe Carroll (Olin)
Date: 20 January 1993 Time: 1340 Film: Kodak ASA 200
Logbook Photo #: 10 Direction: South



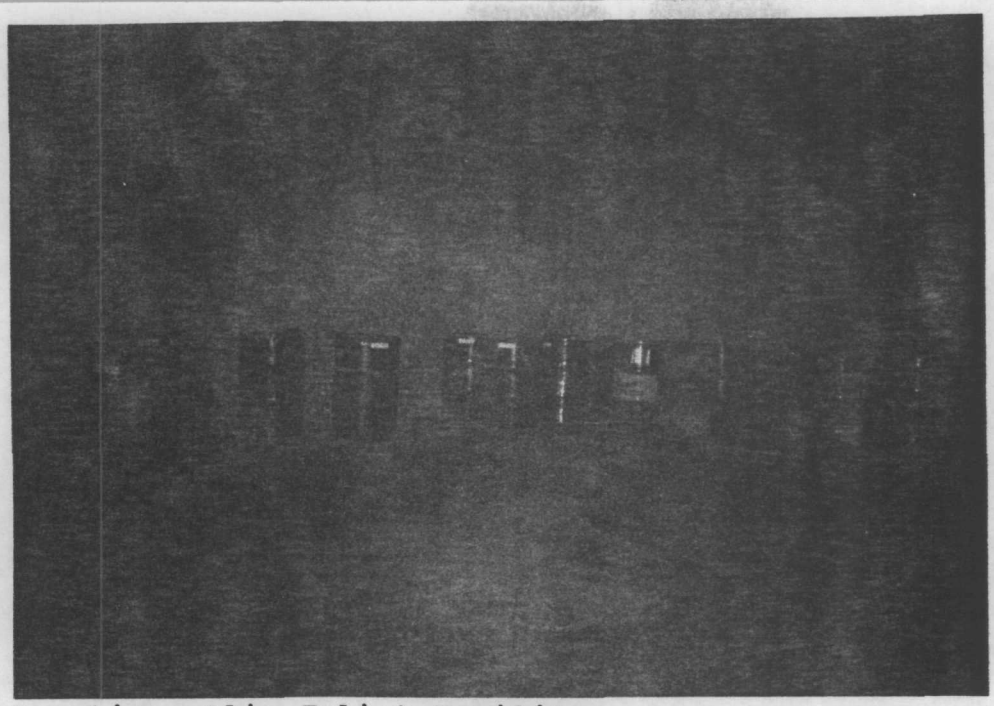
Location: Olin Joliet Facility
Subject: Main outfall for the facility. Discharge from the SWTF and Sanitary Plant joined here prior to entering the Des Plaines River. Orange pipe is from SWMU #9.
Photographer: Tim Temple (M&E)
Camera: Vivitar 35C1 Witness: Joe Carroll (Olin)
Date: 20 January 1993 Time: 1345 Film: Kodak ASA 200
Logbook Photo #: 11 Direction: North



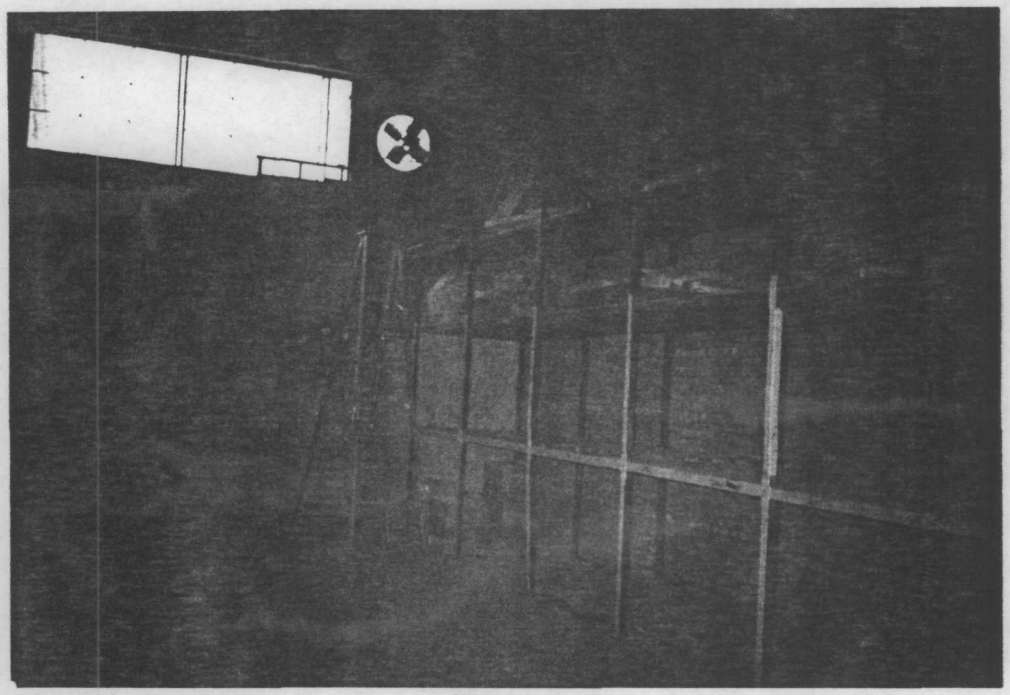
Location: Olin Joliet Facility
Subject: SWMU #6 Baghouse #9 (BH9) on 5th floor of STPP-A building
Photographer: Tim Temple (M&E)
Camera: Vivitar 35C1 Witness: Joe Carroll (Olin)
Date: 20 January 1993 Time: 1348 Film: Kodak ASA 200
Logbook Photo #: 12 Direction: South



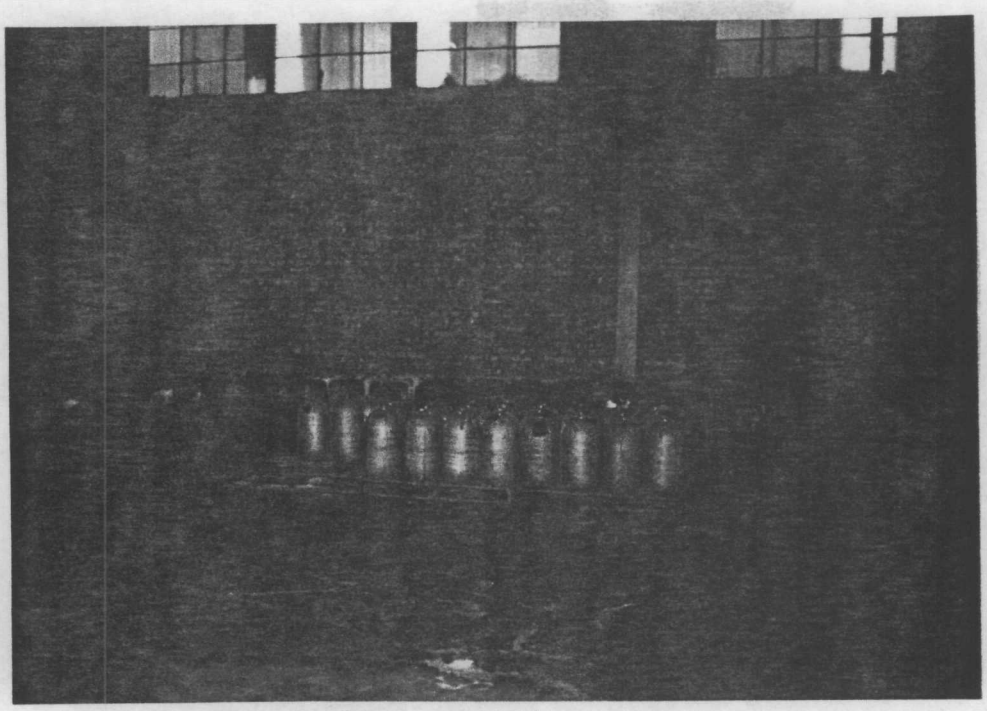
Location: Olin Joliet Facility
Subject: SWMU #6 Baghouse #10 (BH10) on 5th floor of STPP-A building
Photographer: Tim Temple (M&E)
Camera: Vivitar 35C1 Witness: Joe Carroll (Olin)
Date: 20 January 1993 Time: 1348 Film: Kodak ASA 200
Logbook Photo #: 13 Direction: South



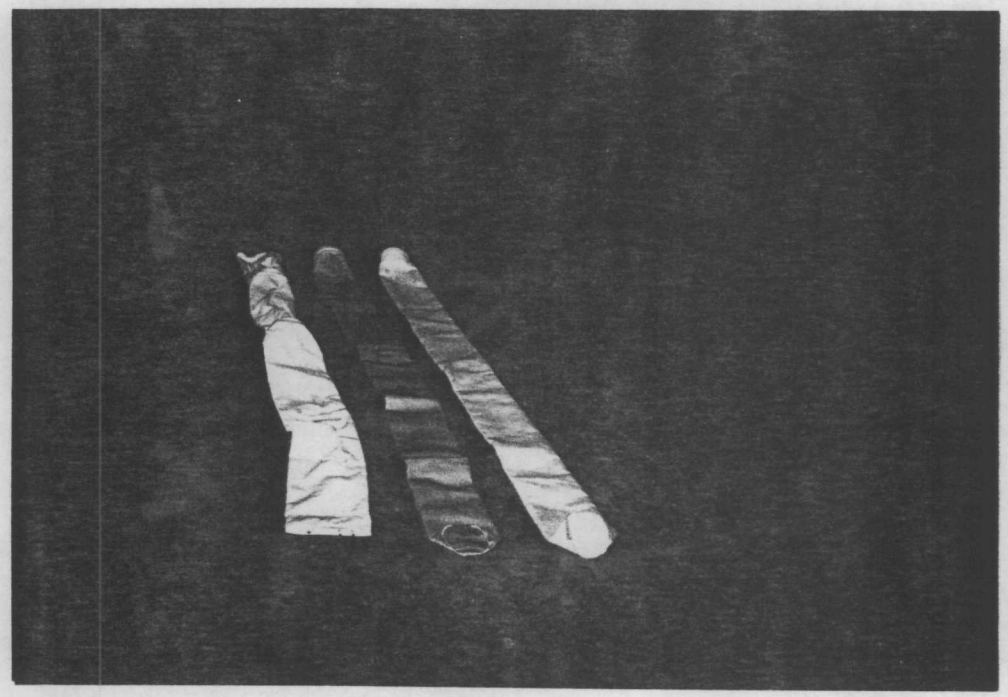
Location: Olin Joliet Facility
Subject: SWMU #1 Present oil storage area inside the Maintenance & Warehouse building. At present both virgin and used oils are stored here.
Photographer: Tim Temple (M&E)
Camera: Vivitar 35C1 Witness: Joe Carroll (Olin)
Date: 20 January 1993 Time: 1357 Film: Kodak ASA 200
Logbook Photo #: 14 Direction: Northwest



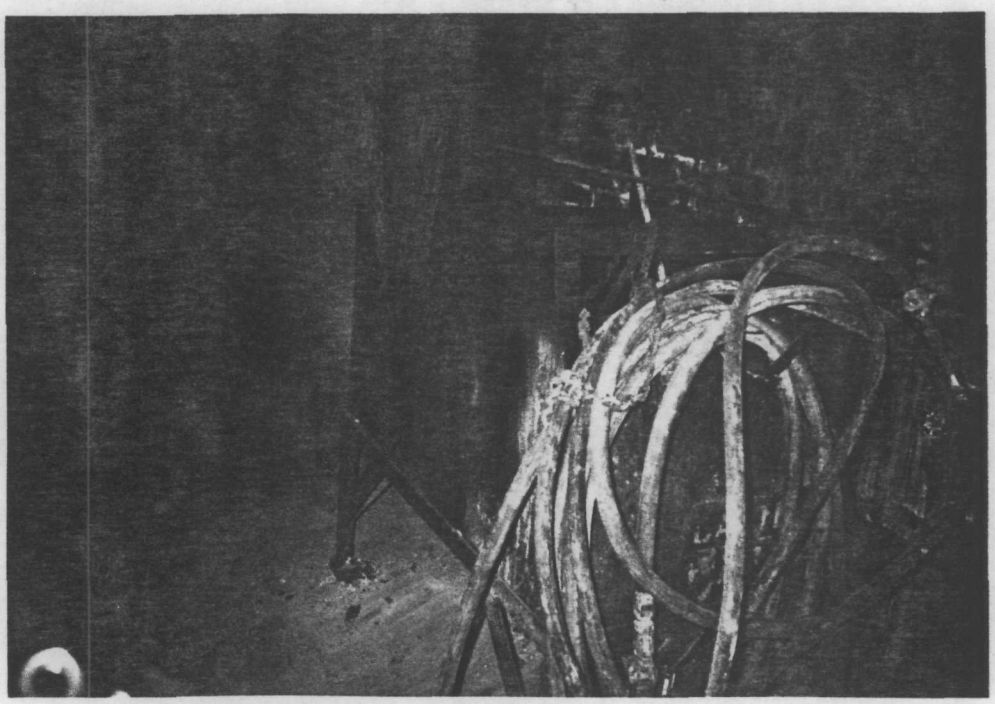
Location: Olin Joliet Facility
Subject: Former paint storage area inside the Maintenance & Warehouse building.
Photographer: Tim Temple (M&E)
Camera: Vivitar 35C1 Witness: Joe Carroll (Olin)
Date: 20 January 1993 Time: 1400 Film: Kodak ASA 200
Logbook Photo #: 15 Direction: Southwest



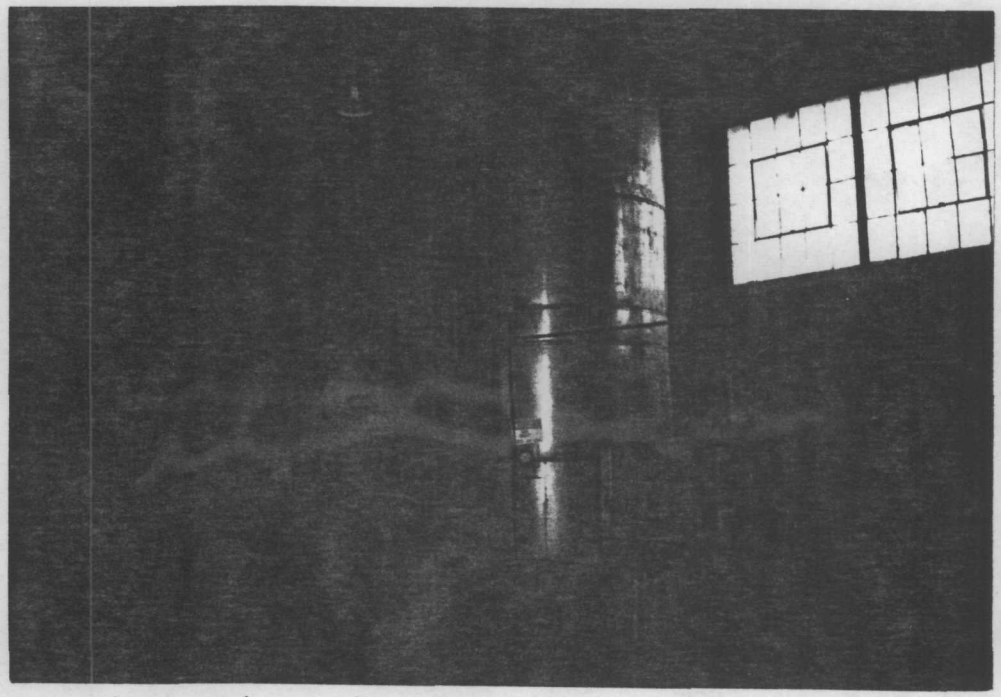
Location: Olin Joliet Facility
Subject: SWMU #2 Carboys used for transporting acid when the plant was in operation stored in the Maintenance & Warehouse building. All containers have been cleaned and are empty.
Photographer: Tim Temple (M&E)
Camera: Vivitar 35C1 Witness: Joe Carroll (Olin)
Date: 20 January 1993 Time: 1403 Film: Kodak ASA 200
Logbook Photo #: 16 Direction: South



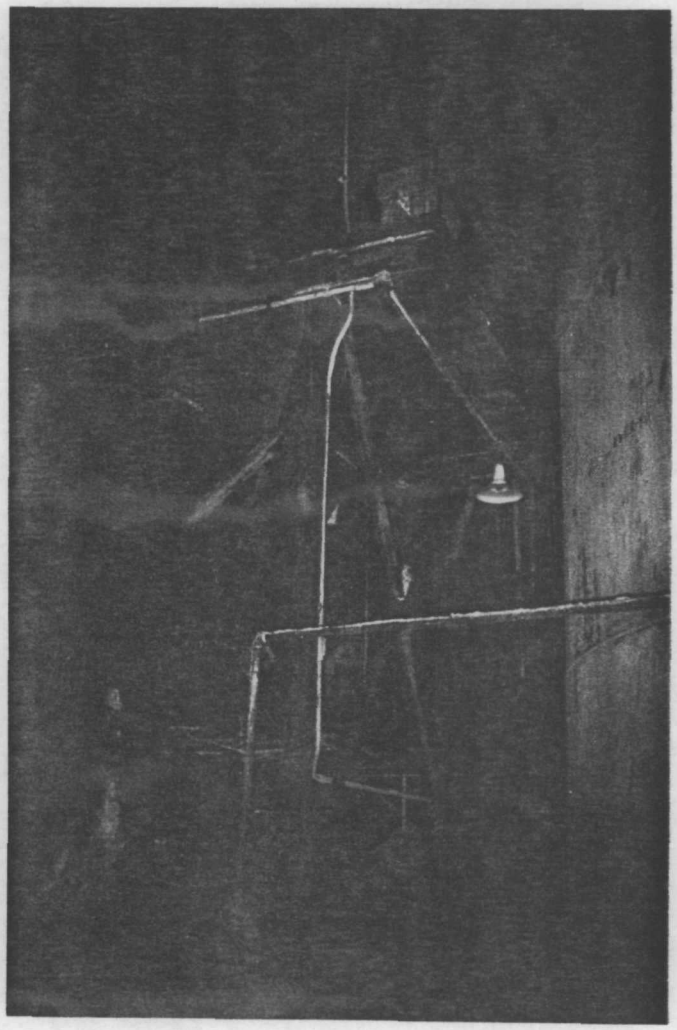
Location: Olin Joliet Facility
Subject: SWMU #6 Three kinds of baghouse bags used in the plant. Nomex, Dacron, and polyester from left to right.
Photographer: Tim Temple (M&E)
Camera: Vivitar 35C1 Witness: Joe Carroll (Olin)
Date: 20 January 1993 Time: 1405 Film: Kodak ASA 200
Logbook Photo #: 17 Direction: South



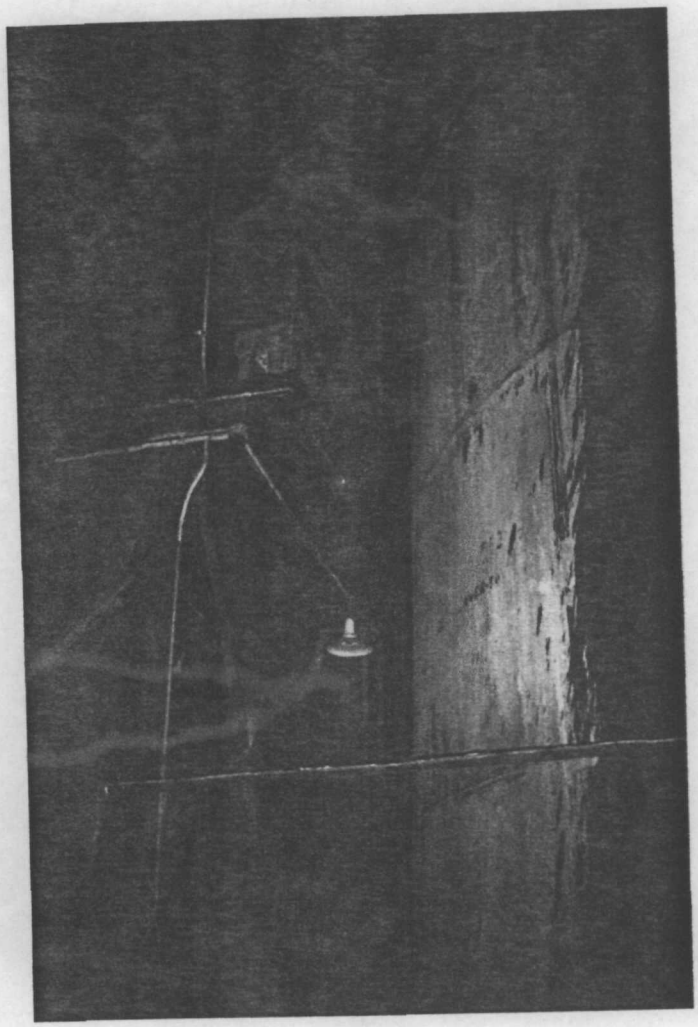
Location: Olin Joliet Facility
Subject: SWMU #5 Parts washer in the Maintenance & Warehouse building.
Photographer: Tim Temple (M&E)
Camera: Vivitar 35C1 Witness: Joe Carroll (Olin)
Date: 20 January 1993 Time: 1410 Film: Kodak ASA 200
Logbook Photo #: 18 Direction: South



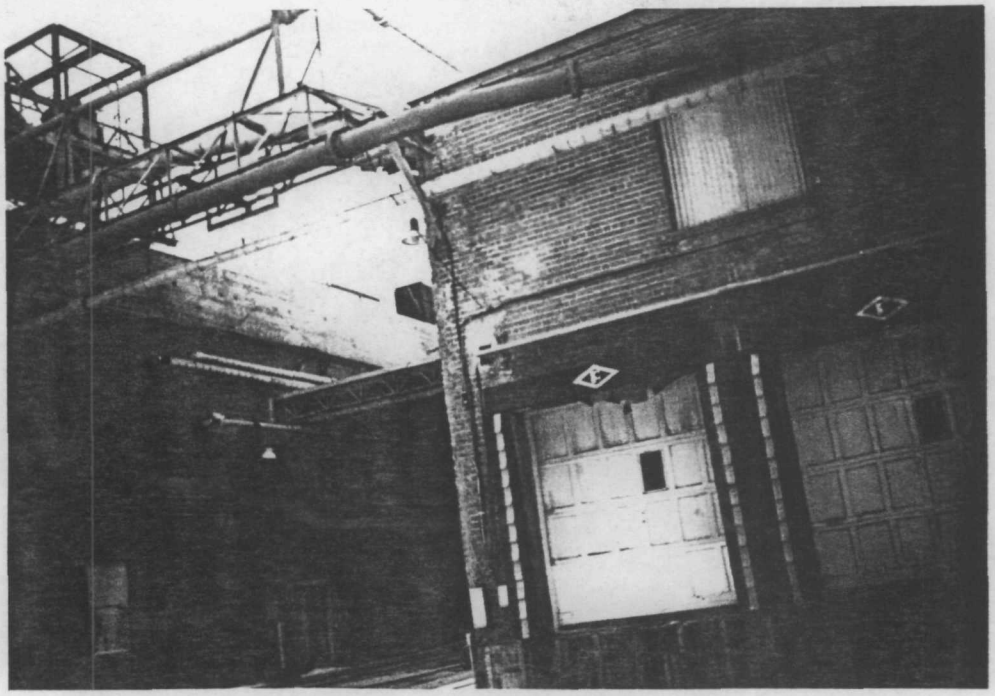
Location: Olin Joliet Facility
Subject: SWMU #1 Waste oil tank located in the old TEOX building. Currently empty.
Photographer: Tim Temple (M&E)
Camera: Vivitar 35C1 Witness: Joe Carroll (Olin)
Date: 20 January 1993 Time: 1415 Film: Kodak ASA 200
Logbook Photo #: 19 Direction: South~~east~~ west



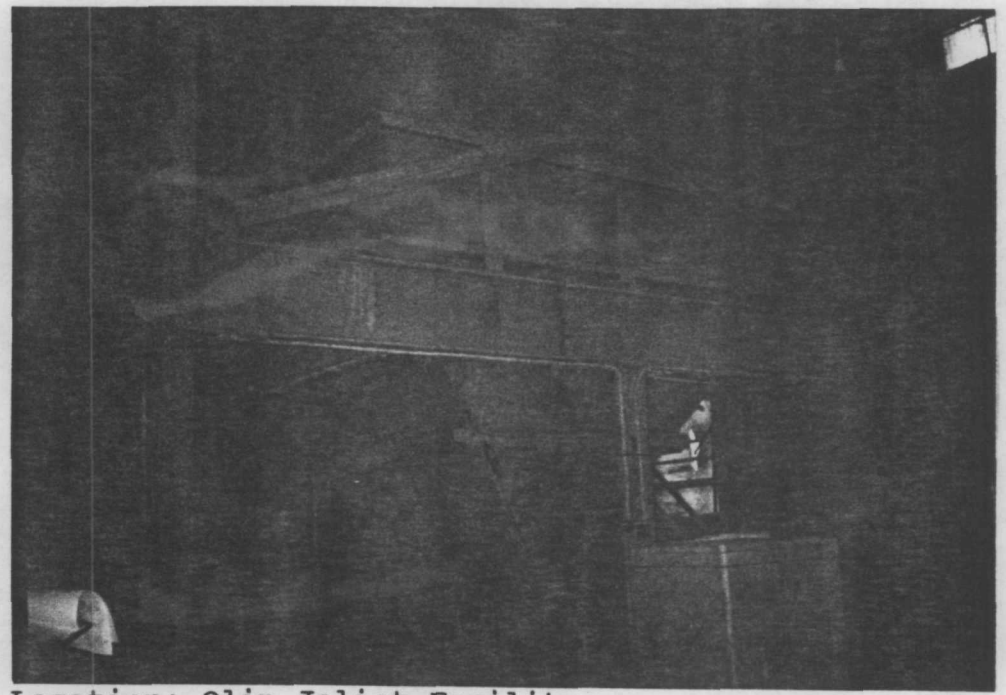
Location: Olin Joliet Facility
Subject: SWMU #6 Baghouse #11 (BH11) for the soda ash silo in the MSP & DSP building
Photographer: Tim Temple (M&E)
Camera: Vivitar 35C1 Witness: Joe Carroll (Olin)
Date: 20 January 1993 Time: 1425 Film: Kodak ASA 200
Logbook Photo #: 20 Direction: Southwest



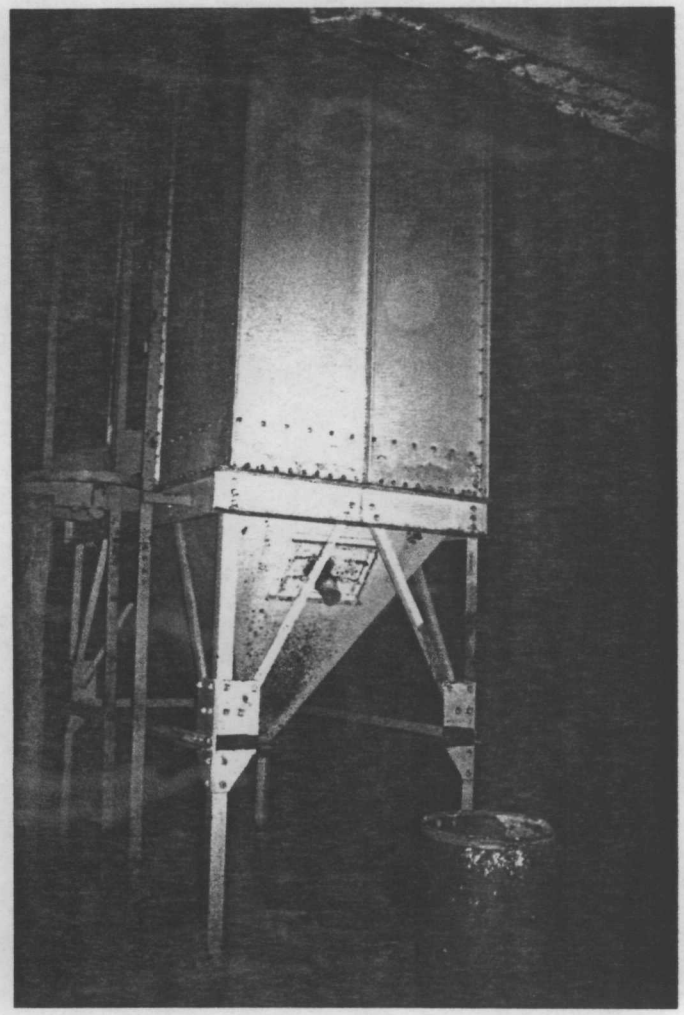
Location: Olin Joliet Facility
Subject: SWMU #6 Baghouse #12 (BH12) for the soda ash silo in the MSP & DSP building
Photographer: Tim Temple (M&E)
Camera: Vivitar 35C1 Witness: Joe Carroll (Olin)
Date: 20 January 1993 Time: 1426 Film: Kodak ASA 200
Logbook Photo #: 21 Direction: Southwest



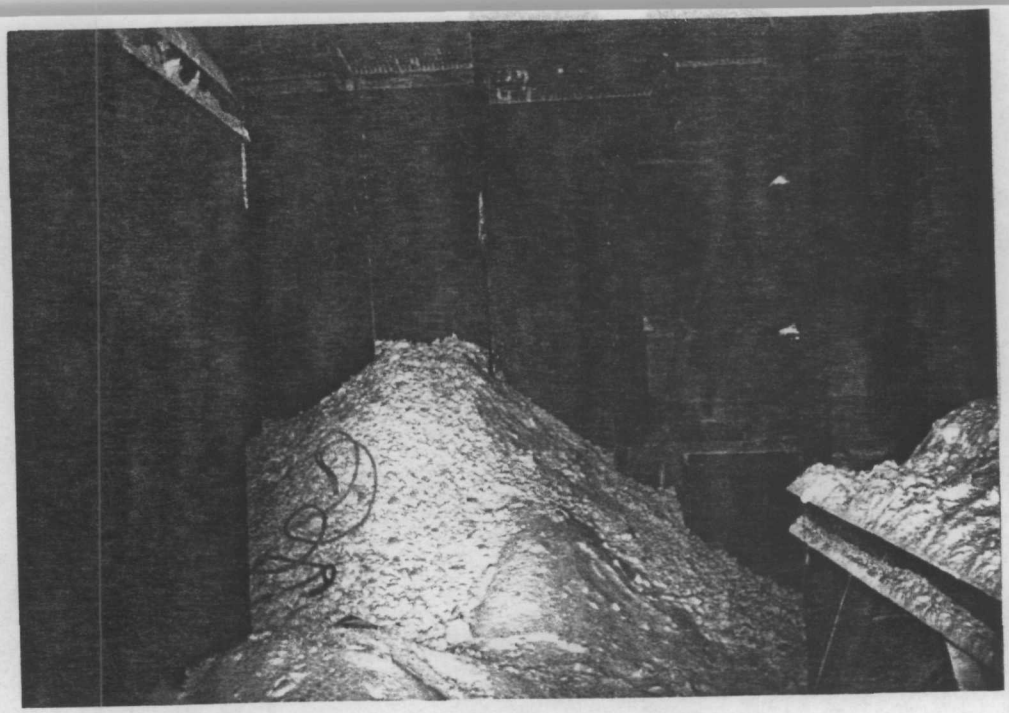
Location: Olin Joliet Facility
Subject: SWMU #6 Baghouse #13 (BH13) located on the roof of the MSP & DSP building
Photographer: Tim Temple (M&E)
Camera: Vivitar 35C1 Witness: Joe Carroll (Olin)
Date: 20 January 1993 Time: 1430 Film: Kodak ASA 200
Logbook Photo #: 22 Direction: North



Location: Olin Joliet Facility
Subject: SWMU #6 Baghouse #14 (BH14) located in the SSF building for sodium silica fluoride
Photographer: Tim Temple (M&E)
Camera: Vivitar 35C1 Witness: Joe Carroll (Olin)
Date: 20 January 1993 Time: 1432 Film: Kodak ASA 200
Logbook Photo #: 23 Direction: North

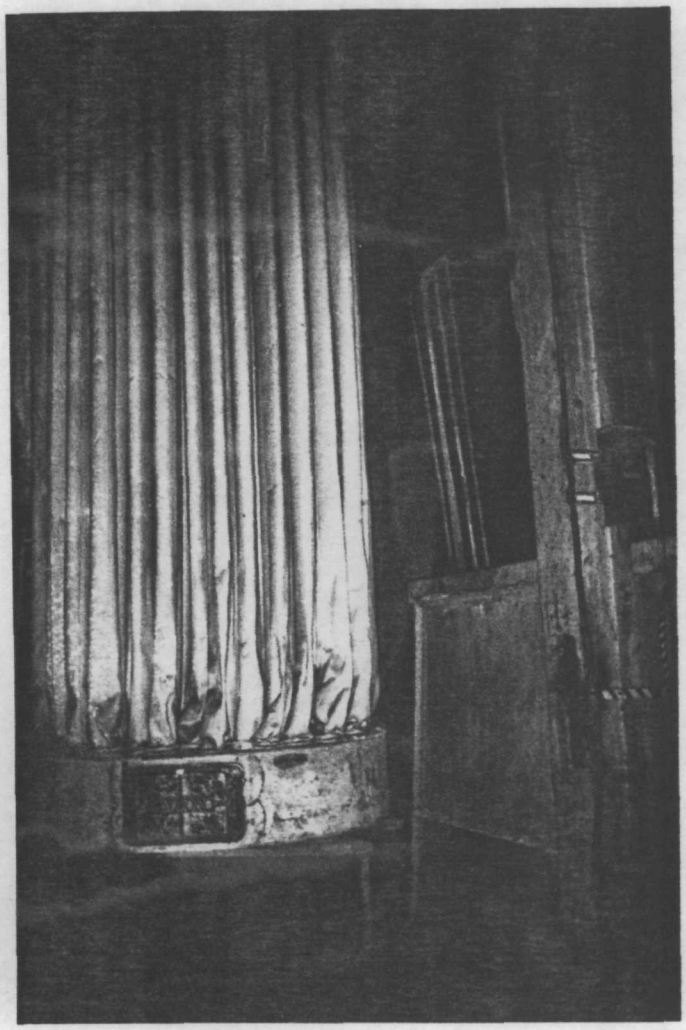


Location: Olin Joliet Facility
Subject: SWMU #6 Baghouse #15 (BH15) located in the TSP building
Photographer: Tim Temple (M&E)
Camera: Vivitar 35C1 Witness: Joe Carroll (Olin)
Date: 20 January 1993 Time: 1435 Film: Kodak ASA 200
Logbook Photo #: 24 Direction: West

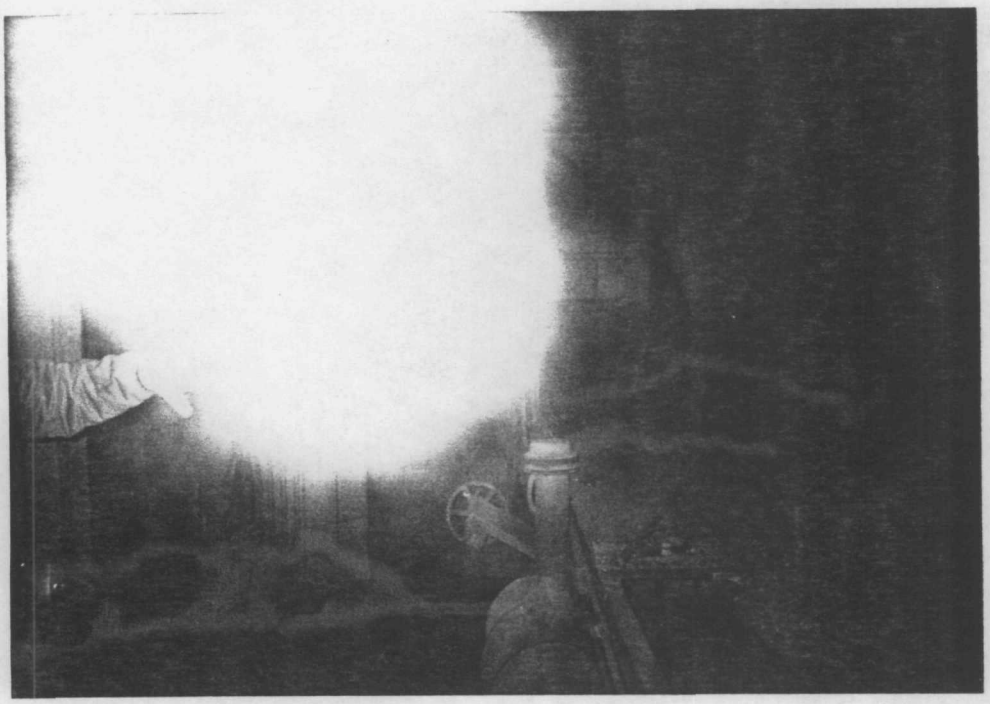


Location: Olin Joliet Facility
Subject: SWMU #6 Baghouse #16 (BH16) located on the 2nd floor in the TSP building. White material is phosphates that have escaped the baghouse.
Photographer: Tim Temple (M&E)
Camera: Vivitar 35C1 Witness: Joe Carroll (Olin)
Date: 20 January 1993 Time: 1437 Film: Kodak ASA 200
Logbook Photo #: 25 Direction: West

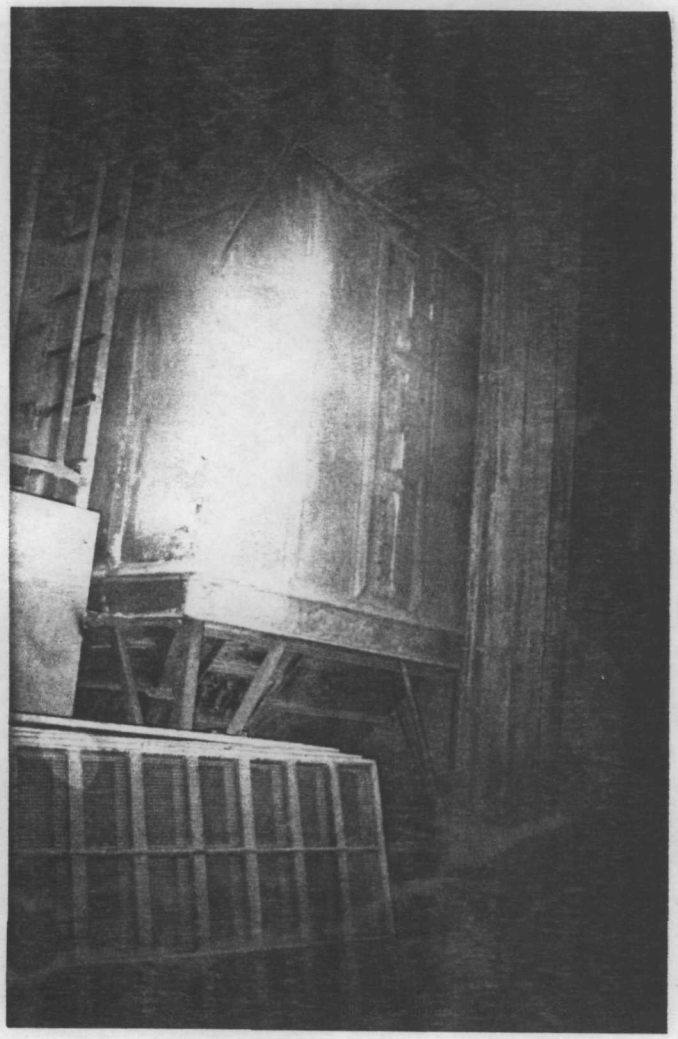
Location: Olin Joliet Facility
Subject: SWMU #6 Baghouse #17 (BH17) located in the MSP & SAPP building
Photographer: Tim Temple (M&E)
Camera: Vivitar 35C1 Witness: Joe Carroll (Olin)
Date: 20 January 1993 Time: 1440 Film: Kodak ASA 200
Logbook Photo #: 26 Direction: East



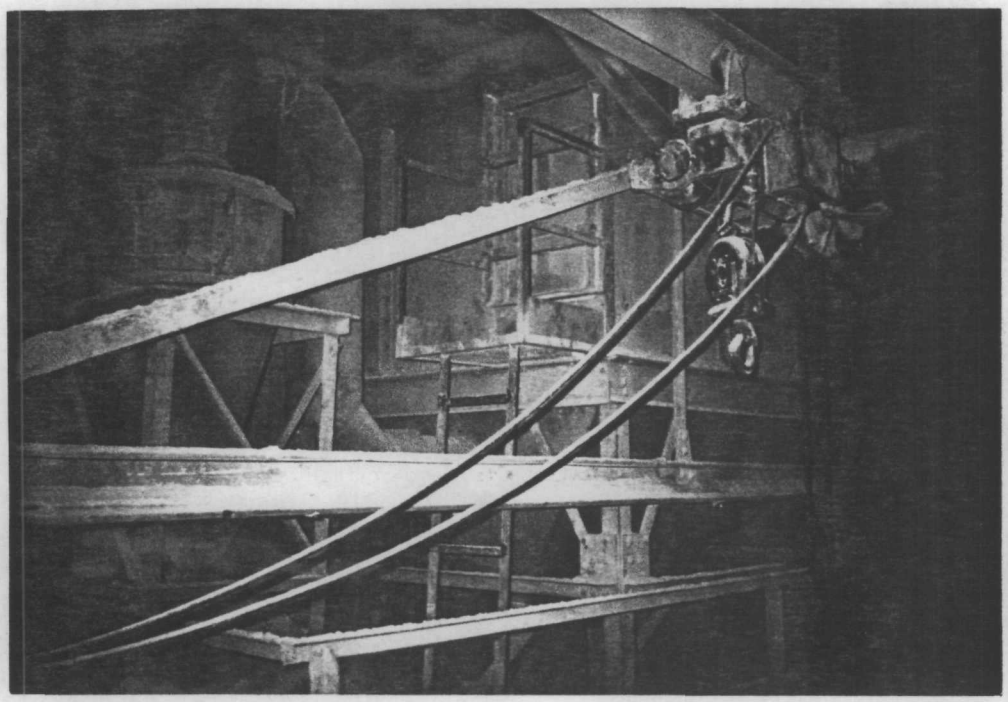
Location: Olin Joliet Facility
Subject: SWMU #6 Baghouse #18 (BH18) SAPP baghouse dust collector and bags, located in the MSP & SAPP building
Photographer: Tim Temple (M&E)
Camera: Vivitar 35C1 Witness: Joe Carroll (Olin)
Date: 20 January 1993 Time: 1443 Film: Kodak ASA 200
Logbook Photo #: 27 Direction: North



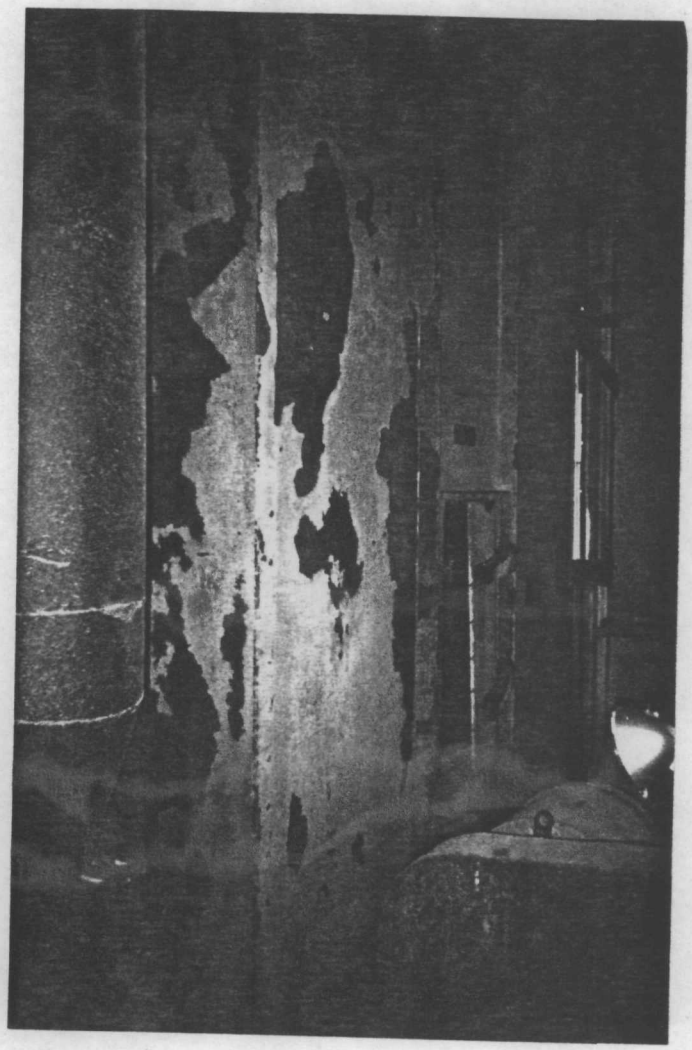
Location: Olin Joliet Facility
Subject: SWMU #6 Baghouse #19 (BH19) located in the Department 40/ Phosphoric Acid Plant.
Photographer: Tim Temple (M&E)
Camera: Vivitar 35C1 Witness: Joe Carroll (Olin)
Date: 20 January 1993 Time: 1450 Film: Kodak ASA 200
Logbook Photo #: 28 Direction: North



Location: Olin Joliet Facility
Subject: SWMU #6 Baghouse #20 (BH20) located on the 1st floor of the High Grade Fertilizer building.
Photographer: Tim Temple (M&E)
Camera: Vivitar 35C1 Witness: Joe Carroll (Olin)
Date: 20 January 1993 Time: 1455 Film: Kodak ASA 200
Logbook Photo #: 29 Direction: South

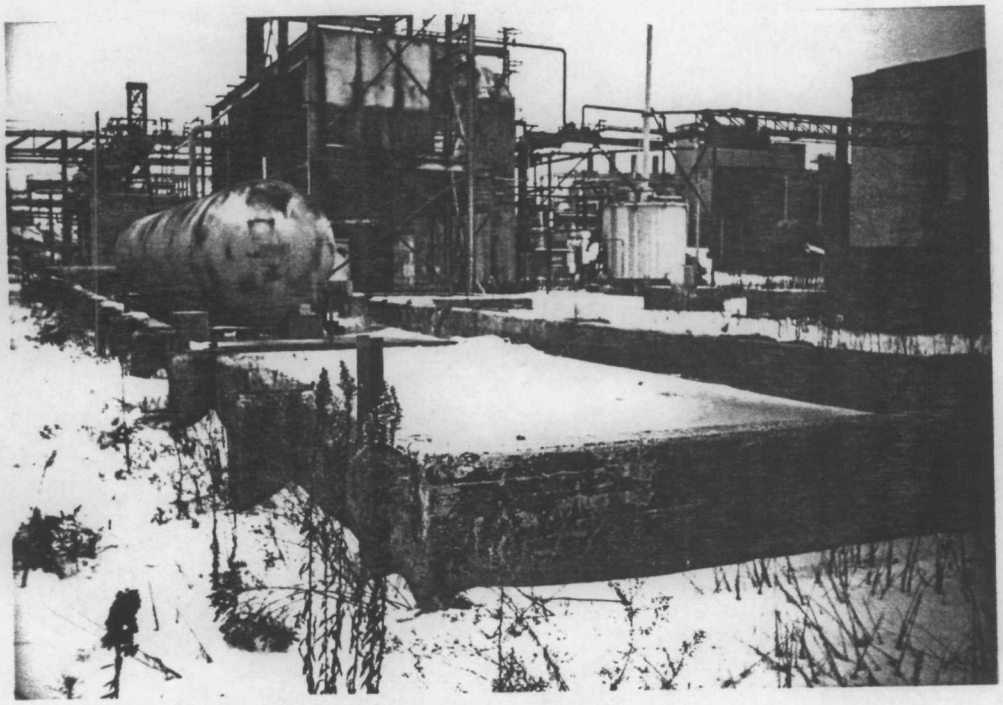


Location: Olin Joliet Facility
Subject: SWMU #6 Baghouse #21 (BH21) located on the 2nd floor of the High Grade Fertilizer building.
Photographer: Tim Temple (M&E)
Camera: Vivitar 35C1 Witness: Joe Carroll (Olin)
Date: 20 January 1993 Time: 1456 Film: Kodak ASA 200
Logbook Photo #: 30 Direction: South



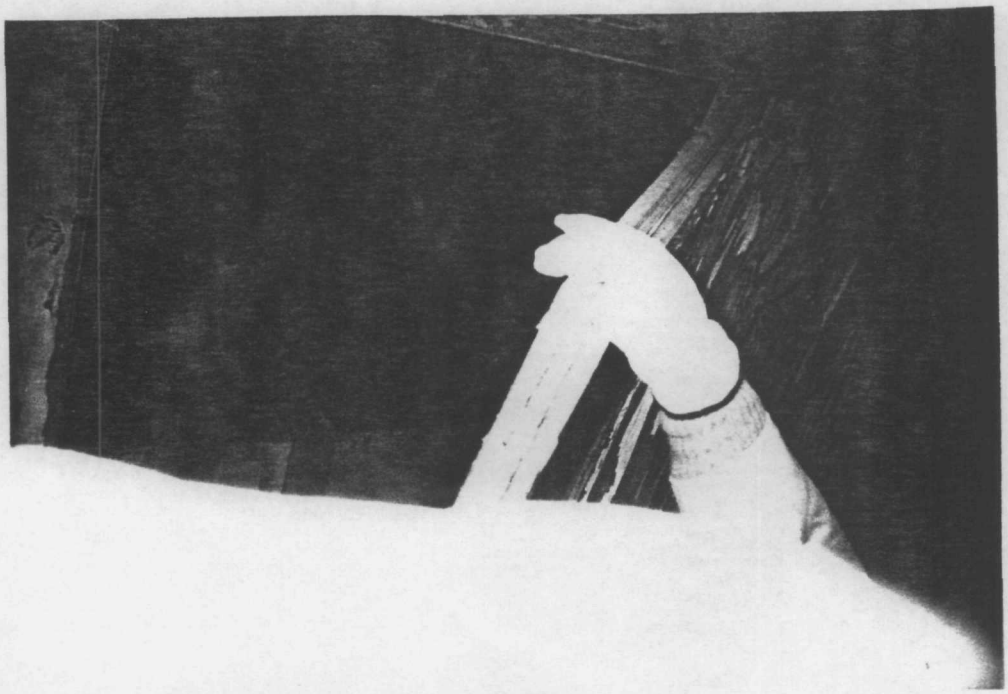
Location: Olin Joliet Facility
Subject: SWMU #6 Baghouse #22 (BH22) located on top of the Soda Ash & Rock Silos
Photographer: Tim Temple (M&E)
Camera: Vivitar 35C1 Witness: Joe Carroll (Olin)
Date: 20 January 1993 Time: 1507 Film: Kodak ASA 200
Logbook Photo #: 31 Direction: South

Location: Olin Joliet Facility
Subject: SWMU #6 Baghouse #23 (BH23) located on top of the Soda Ash & Rock Silos
Photographer: Tim Temple (M&E)
Camera: Vivitar 35C1 Witness: Joe Carroll (Olin)
Date: 20 January 1993 Time: 1507 Film: Kodak ASA 200
Logbook Photo #: 32 Direction: North

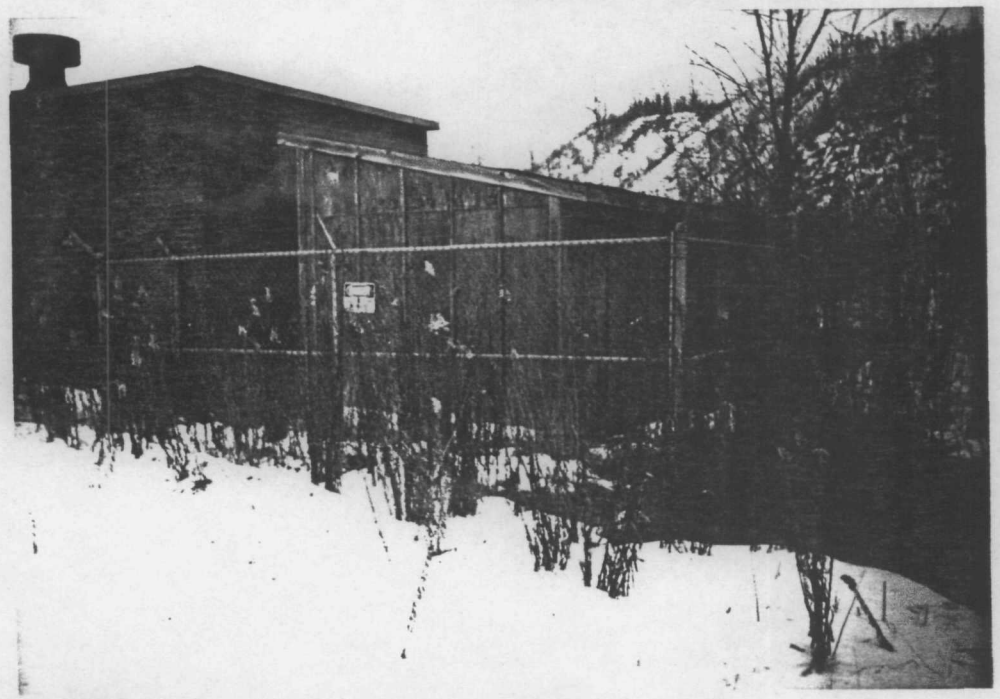


Location: Olin Joliet Facility
Subject: SWMU #8 - 20′ x 26′ concrete storage pad.
Photographer: Tim Temple (M&E)
Camera: Vivitar 35C1 Witness: Joe Carroll (Olin)
Date: 20 January 1993 Time: 1510 Film: Kodak ASA 200
Logbook Photo #: 33 Direction: South

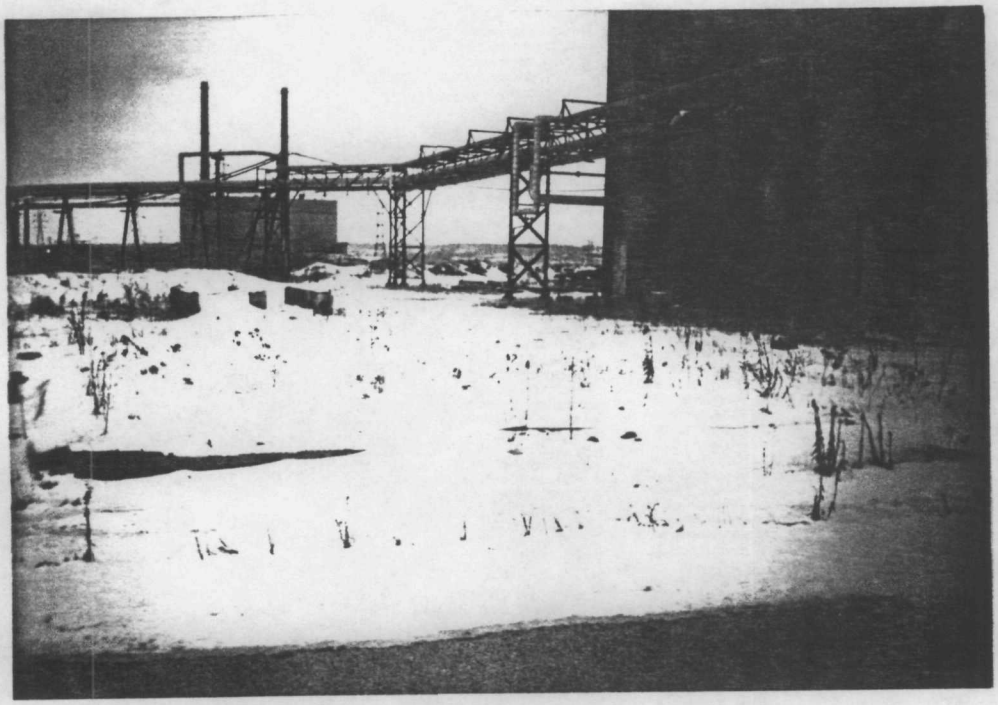
Location: Olin Joliet Facility
Subject: AOC #1 North pond for surface water runoff. Adjacent Commonwealth Edison plant is in background.
Photographer: Tim Temple (M&E)
Camera: Vivitar 35C1 Witness: Joe Carroll (Olin)
Date: 20 January 1993 Time: 1515 Film: Kodak ASA 200
Logbook Photo #: 34 Direction: North



Location: Olin Joliet Facility
Subject: SWMU #4 PCB Transformer & Storage Area showing interior of the building and transfer pans
Photographer: Tim Temple (M&E)
Camera: Vivitar 35C1 Witness: Joe Carroll (Olin)
Date: 20 January 1993 Time: 1515 Film: Kodak ASA 200
Logbook Photo #: 35 Direction: Northeast

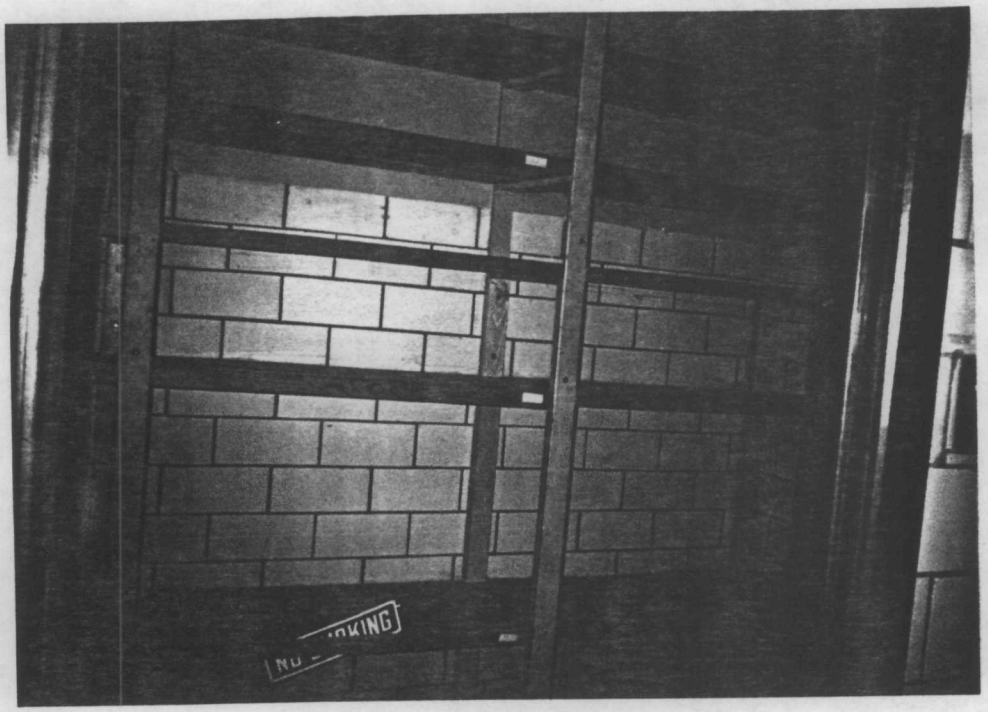


Location: Olin Joliet Facility
Subject: SWMU #4 PCB Transformer & Storage Area showing exterior of the building
Photographer: Tim Temple (M&E)
Camera: Vivitar 35C1 Witness: Joe Carroll (Olin)
Date: 20 January 1993 Time: 1515 Film: Kodak ASA 200
Logbook Photo #: 36 Direction: Northeast

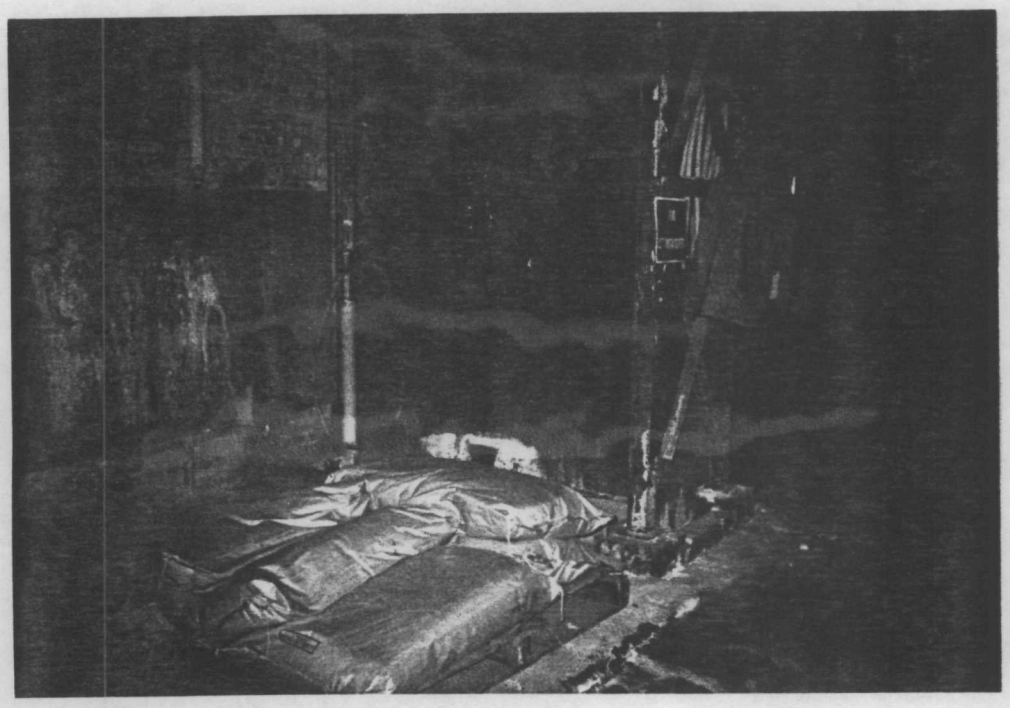


Location: Olin Joliet Facility
Subject: SWMU #7 120' x 18' storage area (foreground)
Photographer: Tim Temple (M&E)
Camera: Vivitar 35C1 Witness: Joe Carroll (Olin)
Date: 20 January 1993 Time: 1522 Film: Kodak ASA 200
Logbook Photo #: 37 Direction: West

Location: Olin Joliet Facility
Subject: AOC #1 South pond for storm water runoff
Photographer: Tim Temple (M&E)
Camera: Vivitar 35C1 Witness: Joe Carroll (Olin)
Date: 20 January 1993 Time: 1523 Film: Kodak ASA 200
Logbook Photo #: 38 Direction: South



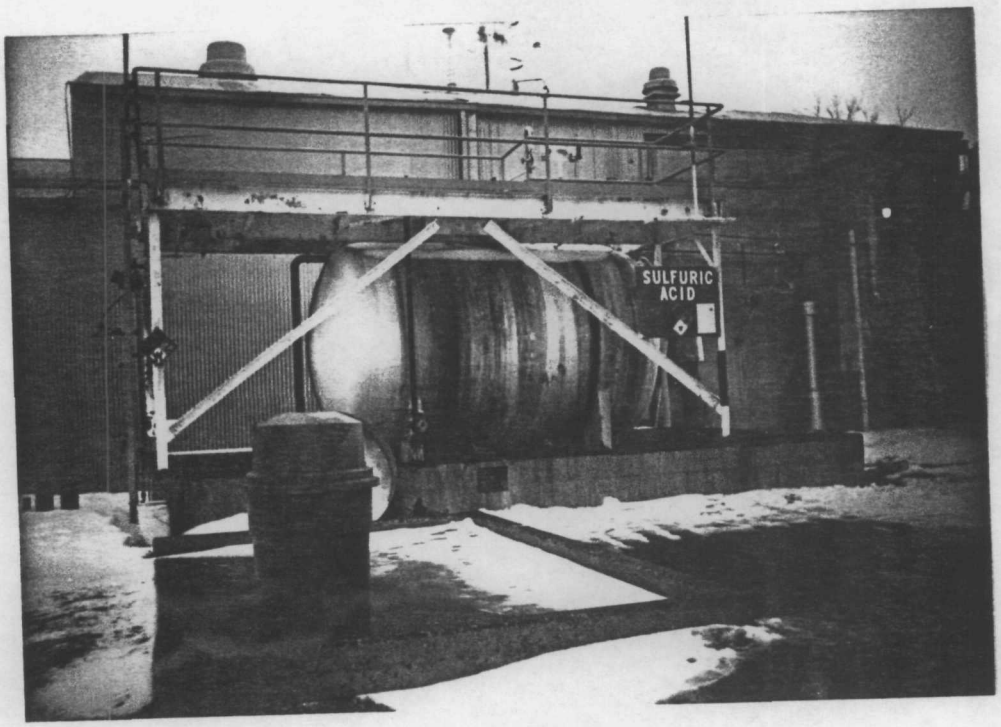
Location: Olin Joliet Facility
Subject: SWMU # 3 Lab Pack Storage Area showing interior of the storage closet
Photographer: Tim Temple (M&E)
Camera: Vivitar 35C1 Witness: Joe Carroll (Olin)
Date: 20 January 1993 Time: 1525 Film: Kodak ASA 200
Logbook Photo #: 39 Direction: West



Location: Olin Joliet Facility
Subject: SWMU # 2 Showing drum cleaning area inside DSP Filtration building
Photographer: Tim Temple (M&E)
Camera: Vivitar 35C1 Witness: Joe Carroll (Olin)
Date: 20 January 1993 Time: 1545 Film: Kodak ASA 200
Logbook Photo #: 40 Direction: Southeast

Location: Olin Joliet Facility
Subject: AOC #3 Gypsum pile and the associated piping
Photographer: Tim Temple (M&E)
Camera: Vivitar 35C1 Witness: Joe Carroll (Olin)
Date: 20 January 1993 Time: 1604 Film: Kodak ASA 200
Logbook Photo #: 41 Direction: Southwest

Location: Olin Joliet Facility
Subject: SWMU #11 Storm Water Treatment Facility; Clarifier in foreground and lime tank in background
Photographer: Tim Temple (M&E)
Camera: Vivitar 35C1 Witness: Joe Carroll (Olin)
Date: 20 January 1993 Time: 1607 Film: Kodak ASA 200
Logbook Photo #: 42 Direction: Northeast



Location: Olin Joliet Facility
Subject: SWMU #11 Sulfuric acid tank at the SWTF
Photographer: Tim Temple (M&E)
Camera: Vivitar 35C1 Witness: Joe Carroll (Olin)
Date: 20 January 1993 Time: 1610 Film: Kodak ASA 200
Logbook Photo #: 43 Direction: East

APPENDIX B

VISUAL SITE INSPECTION FIELD NOTES

CONTENTS

REFERENCE	DATE

OLIN - JOLIET 20 JAN. 1995

People present for initial meeting listed SWMU's + AOC's.

Vicki Ray - Olin Corp.
Joe Carroll - Olin Corp.
George Thompson - Olin Corp.
Tim Temple - M+E
~~Jeff~~ Jeff Miller - M+E

Meeting began at 0900 at the Olin facility in Joliet. Facility is currently mothballed during an ownership transfer. Only a skeleton staff of employees are at the facility. Their primary objective is to operate the Storm Water Treatment Facility (SWTF) and perform maintenance upkeep of the facility. (12 employees)

Facility hasn't handled haz waste since 1991. Were a small quantity generator

1992 - 1993 Olin will file with U.S. EPA as a large quantity generator because of mothballing

Jeff D Miller 1-20-93

of the plant. Most of the waste generated is lab packs and used oil, and a majority of replacement materials are virgin products.

SWMU #1 Waste Oil Tank

- Was closed Aug 1991
- The last shipment was 5500-6500 gallons to Safety Klean for energy recovery
- Over 80% of waste shipped following shut down was oil
- Tank size is 8000-10,000 gallons
- Waste oil was generated from pumps, gear reducers, forklifts etc.
- Waste oil was sent to Brenntag originally but recent shipments have gone to Safety-Klean for energy recovery
- Olin will provide manifests analysis of waste oil

Jeff D Mill 1-20-93

SWMU #2 Empty Drum Storage

- Virgin material drums when empty were washed and stored prior to shipping
- Washing & storage were done at Building 55
- All rinse water went to the process recycle water system.

SWMU #3 Lab Packs

- Materials were stored on the 2nd floor of Building 2 in the process tech area.
- SWMU was cleaned out no later than July 1991
- The unit contained lab chemicals & reagents
- All materials were kept in their original bottles and packed in chem-bags in 55 gallon drums prior to shipping
- Olin will supply waste manifests.

Jeffrey D Mills 1-20-93

SWMU #4 PCB Contaminated Transformers & Oil

- Transformers & motors were taken to a small outbuilding where oil was drained out

- Closure of the unit & final pipe work was done in 1987

- Olin will provide manifests

- All transformers were removed or replenished with non-PCB material

SWMU #5 Spent Solvents

- Unit closed in Dec 1992
- Transported by Chem-Waste management
- Unit had limited storage space plus a 55 gallon drum limited space time
- All waste transported within 90 days
- Olin will provide manifests
- Shipment included paint waste + left over painting supplies
- Wastes included - 1,1,1 trichloroethane, methylene chloride, carbon tet & others

[illegible] 1-20-93

SWMU #6 BAGHOUSES & BAGS

- Baghouses' bags accumulated phosphate dust & materials from production lines for reuse.
- Waste bags sent to regular garbage as non-hazardous waste.
- Bags were replaced ~3/year
- Each building has dust collectors. At least 12

SWMU #7 HAZ WASTE STORAGE PAD
120' x 18'

- Originally listed in case storage was needed.
- No waste was stored here

SWMU #8 Haz waste Storage Pad
20' x 26'

- Olin has no records that this pad was ever used. However, EPA files state that at one time lab packs & mercury contaminated clothing were located here. Olin could not confirm nor deny this.

[signature] 1-20-93

SWMU #9 Sanitary Sewage Treatment Facility & Lindy
- Closed in Oct 1991 & abandoned
- Facility now on septic system allowed by Will County
- SSTF was a continuous flow system using bugs & aerators to clean water plus chlorine which was added prior to discharge
- No activated sludge
- All sludge was sent to the Elwood Sanitary Sewage Plant

SWMU #10 PHOSPHATE PONDS
3 TOTAL RETENTION PONDS (TRP)
TRP 1 - 35 acres built in 1-20-93 [?] 1970 as a total retention pond for any byproducts in process water & maintaining permitted as an emergency holding reservoir. Water pumped to gypsum pile from here. H_2O filters through pile & is treated prior to discharge.
TRP 2 - 23 acres sodium phosphate pond. Presently permitted for fertilizer sales and is being mined for phosphate.

[signature] 1-20-93

TRP 2A – ~7 acres SWTF sludge is pumped here. Contains Tricalcium phosphate sludge; may be used as a fertilizer supplement. Is being called such.

- Olin may soon sell sludge from TRP 1 as a fertilizer supplement

SWMU #11 Storm Water Treatment Facility (SWTF)

- Treats stormwater runoff; water from phosphate ponds, gyp pile, weed pond.
- Treat water with sulfuric acid; lime to adjust pH & precipitate solids from water. Sulfuric acid tank at the plant is ~ 6000 gallons

[illegible] 1-20-93

AOC #1 Storm Water Runoff Ponds

North, South & West

South: North pond near the east side of the plant. The south pond drains to the north pond. North pond has two outfalls – 1) to Des Plaines 2) to West Pond. Discharge to River from north pond is tested 1/shift. Discharge can be sent to the west pond for treatment. All west pond water is treated by SWTF prior to discharge to Des Plaines River

AOC #2 Clean Solvent Storage

- Unit is located in the general warehouse and contained solvents, paints, turpentine etc.

AOC #3 Gypsum Pile

- 200 acre gyp pile built in 1959 as a result of phosphoric acid plant. By applying sulfuric acid to gyp pile create phosphoric acid
- New water is placed on pile to keep it wet for pond stability. Also used to provide overflow management

[illegible signature] 1-20-93

in the storm water management system
Water applied to pile is treated by SWTF

AOC # 4-12

Various tanks of materials in a large number
& sizes. Tanks contained the following
materials:

#4 = Sodium Hydroxide
#5 = Phosphoric Acid
#6 = Fuel Oil
#7 = Nitric Acid
#8 = Muriatic Acid
#9 = Sulphur dioxide/chlorine in the cylinders
#10 = Chlorine (in railroad tank cars)
#11 = Sulfuric Acid
#12 = Sodium hypochlorite

All tanks were empty at the time
of the VSI

* At one time there was a hydrofluoric acid
plant at the facility but it ceased production
in the mid 70's and all building & tanks have
been removed.

Jeffrey D Mills 1-20-93

Lunch Break from 11:45 - 12:45

PHOTO LOG

Taking photos of exterior of the Facility ~1300
Weather: Cloudy cold ~33°F
Personnel: Joe Carroll - Olin
Tim Temple - M.K. - photographer
Jeff Miller - M.K.

Photo #1 of Sodium Tripolyphosphate Bldg C. (STPP-C) (note dust on ground...)
SWMU #4 2-1-93 JDM Bag House #1 on 5th floor of STPP-C Facing west 1310

Photo #2 Bag house #2 just outside STPP-C at a 5th floor level
SWMU #4 2-1-93 JDM Facing Southwest 1313

Photo #3 Bag house #3 on 6th floor of STPP-C Facing East 1315
SWMU #4 2-1-93 JDM

Photo #4 Bag house #4 on 6th floor of STPP-C Facing West 1315
SWMU #4 2-1-93 JDM

Photo #5 Bag House #5 on 6th floor of STPP-C Facing West 1315
SWMU #4 2-1-93 JDM

Jeff Miller 1-20-93

Photo #6 in Sodium Tripolyphosphate Bld B
SWMU #6 2-1-93 JDM
Baghouse #6 facing South 1325

Photo #7 Baghouse #7 in STPP-B
SWMU #6 2-1-93 JDM
Facing East 1325

Photo #8 Baghouse #7 Hopper & auger used
SWMU #6 2-1-93 JDM
in reclaim system Facing East
1325

Photo #9 Baghouse #8 on top of STPP
SWMU #6 2-1-93 JDM
silos north of STPP-B. Silos
are ~ 80' tall. Baghouse is in
shack on top of the silos in
top left-center of photo Facing
North 1335

PHOTO #10 SWMU #9 SANITARY SEWAGE TREATMENT
PLANT
Just north of STPP silos
Unit is inactive & has been cleaned out
Facing south 1340

[signature] 1-20-93

Photo #11 Outfall for the facility. Discharge from SWTF : SSTF join here prior to discharge to the Des Plaines River. Orange pipe is from SWMU #9 1345

Photo #12 Baghouse #9 on 5th Floor of STPP-A Bld. Facing: South 1348
SWMU #6
2-1-93
JDM

Photo #13 Baghouse #10 on 5th Floor of STPP-A. Facing: South 1348
SWMU #6
2-1-93
JDM

Photo #14 Present oil storage area inside the general warehouse. Both virgin & used oils are stored here now that SWMU #1 oil tank is closed (Is this now SWMU #?) Facing Northwest 1357

Photo #15 Former Paint storage area inside the general warehouse building (AOC #2) Facing Southwest 1400

Jeffrey D Mel? 1-20-93

PHOTO #16 At southeast corner of general
warehouse are carboys & containers
used to transport acids when plant
was in operation. All containers are
clean & empty.
FACING South 1403

PHOTO #17 In general warehouse are virgin
baghouse bags used with some of the
baghouses. 3 kinds were used. Nomex
Dacron & polyester (left to right in photo)
Bags are ~ 3 meters in length
FACING South 1405

PHOTO #18 Along NE wall (^northwest) of the general
warehouse is a parts washer that
generated some spent solvents for SWMU #5
Parts washer was empty & clean at time
of inspection
FACING South 1410

PHOTO #19 SWMU #1 Waste oil tank located in
the old TEOX building. Currently empty &
marked to hold only used oil
FACING Southwest 1415

[signature] Smith 1-20-93

PHOTO #20 SWMU #6 2-1-93 JDM	Baghouse #11 for the Soda Ash silo in the MSP/DSP building. MSP = monosodium phosphate, DSP = disodium phosphate FACING: Southwest 1425
PHOTO #21 SWMU #6 2-1-93 JDM	Baghouse #12 for the Soda Ash silo in the MSP/DSP building FACING: Southwest 1426
PHOTO #22 SWMU #6 2-1-93 JDM	Baghouse #13 located on the roof of the MSP/DSP building located at left-center of photo in [illegible] FACING: North 1430
PHOTO #23 SWMU #6 2-1-93 JDM	Baghouse #14 located in the sodium silicofluoride silo (SSF) FACING: North 1432
PHOTO #24 SWMU #6 2-1-93 JDM	Baghouse #15 located in the Trisodium phosphate building (TSP) JDM FACING: West 1435

Jeffrey D Mills 1-20-93

PHOTO #25 Baghouse #16 on 2nd Floor of the TSP building. White powder material in foreground is triple superphosphate that has spilled from the baghouse.

SWMU #6 2-1-93 JDM

FACING WEST 1437

PHOTO #26 Baghouse #17 located in the MSP-SAPP building (MSP = monosodium phosphate SAPP = sodium acid pyrophosphate) * Note sign on wall stating MSP [illegible] area.

SWMU #6 2-1-93 JDM

FACING EAST 1440

PHOTO #27 Baghouse #18 for the SAPP baghouse dust collector showing baghouse bags & reclaim system.

SWMU #6 2-1-93 JDM

FACING North 1442

PHOTO #28 Baghouse #19 in Dept. 40/Phosphoric Acid Plant.

SWMU #6 2-1-93 JDM

FACING North 1450

PHOTO #29 Baghouse #20 on 1st Floor of the High Grade Fertilizer Bld. Facing South 1455

SWMU #6 2-1-93 JDM

[signature] 1-20-93

PHOTO #30 Baghouse #21 on 2nd floor of H&F Bld.
SWMU #6
2-1-93
JDW
Facing South 1456

PHOTO #31 Baghouse #22 located on top of the South Acid Rock silos
SWMU #6
2-1-93
JDW
Facing South 1507

PHOTO #32 Baghouse #23 on top of South Acid Rock silos
SWMU #6
2-1-93
JDW
Facing: North 1507

PHOTO #33 SWMU #8 20'x26' concrete storage pad Note sulfuric acid tanks in background.
Facing South 1510

PHOTO #34 ACC #1 North Pond of Storm Water Runoff Ponds. North Conversion Fd Plant in background
Facing North 1515

PHOTO #35 SWMU #4 PCB transformer storage showing interior of [illegible].
Facing NE 1515

J.D.[illegible]mill
1-20-93

PHOTO #36 Wood building in SWMU #4
Note fencing and danger sign
FACING NE 1515

PHOTO #37 SWMU #7 120' x 18' storage area
in foreground (cement sticking out of
sand) Facing West 1512

NEW ROLL OF FILM

PHOTO #38 AOC #1 South pond for runoff
FACING South 1523

PHOTO #39 SWMU #3 LAB PACK STORAGE AREA
Photo shows empty interior of closet
Facing west 1525

PHOTO #40 SWMU #2 Drum cleaning area inside
the DSF Filtration building
* Note staining on walls & floor.
Facing Southeast 1545

PHOTO #41 AOC #3 S/P Pile & associated
piping - (Piping supplies deionized water)
Facing SW 1604

[signature] 1-20-93

PHOTO #42 SWMU #11 Storm Water Treatment Facility (SWTF) Clarifiers in foreground and sand filters in center of picture. West pond is just left of picture.
FACING NE 1607

PHOTO #43 SWMU #11 with AOC #N associated to SWTF
Facing East 1610

Following the walkthrough at the facility. Again met with [illegible] Ray & [illegible]. She provided waste manifests and analysis requested at the morning session.

M:E personnel off-site at 1700

(Tim, I and [illegible] Breakfast at 0730 to discuss the days activities)

[illegible] MLH 1-20-93

APPENDIX C

LABORATORY ANALYSES

Drew Industrial Division/
Drew Amerold® Marine Division
ASHLAND CHEMICAL, INC. SUBSIDIARY OF ASHLAND OIL, INC.
One Drew Plaza, Boonton, New Jersey 07005

KANSAS CITY, KS.
LABORATORY

ANALYTICAL REPORT

WATER SAMPLE

SAMPLE FROM

OLIN CORP-JOLIET
JOLIET WORKS
PATTERSON RD
JOLIET IL 0I 60436

RFA NUMBER 52168 -2
DATE SAMPLED 04/16/92
DATE RECEIVED 04/22/92
DATE REPORTED 05/04/92
DREW REPRESENTATIVE
FREYMARK SCOTT

****

SAMPLE NUMBER 05

SAMPLE DESCRIPTION "A" AREA on top of gyp pile

TEST DESCRIPTION	RESULTS
PH VALUE	2.7
P ALKALINITY (AS CACO3) MG/L	< 0.1
TOTAL ALKALINITY (AS CACO3) MG/L	< 0.1
TOTAL HARDNESS (AS CACO3) MG/L	2,174.0
CALCIUM (AS CACO3) MG/L	1,491.0
MAGNESIUM (AS CACO3) MG/L	683.0
CHLORIDE (AS CL) MG/L	58.0
SULFATE (AS SO4) MG/L	3,600.0
SILICA (AS SIO2) MG/L	176.0
CONDUCTIVITY, MICROMHOS/CM	10,760.0
SODIUM (AS NA) MG/L	1,384.0
FLUORIDE (AS F) MG/L	198.0
TOTAL SOLUBLE INORGANIC PHOSPHATE, MG/L	9,990.0
SOLUBLE ORTHO PHOSPHATE (AS PO4) MG/L	9,990.0
SOLUBLE POLY PHOSPHATE (AS PO4) MG/L	0.0

Drew Industrial Division/
Drew Amerold® Marine Division
ASHLAND CHEMICAL, INC. SUBSIDIARY OF ASHLAND OIL, INC.
One Drew Plaza, Boonton, New Jersey 07005

KANSAS CITY, KS.
LABORATORY

ANALYTICAL REPORT

WATER SAMPLE

SAMPLE FROM

OLIN CORP-JOLIET
JOLIET WORKS
PATTERSON RD
JOLIET IL OI 60436

RFA NUMBER 52168 -2
DATE SAMPLED 04/16/92
DATE RECEIVED 04/22/92
DATE REPORTED 05/04/92
DREW REPRESENTATIVE
FREYMARK SCOTT

****

SAMPLE NUMBER 03

SAMPLE DESCRIPTION TRP 1

TEST DESCRIPTION	RESULTS
PH VALUE	10.3
P ALKALINITY (AS CACO3) MG/L	2,175.0
TOTAL ALKALINITY (AS CACO3) MG/L	5,980.0
TOTAL HARDNESS (AS CACO3) MG/L	1.2
CALCIUM (AS CACO3) MG/L	0.5
MAGNESIUM (AS CACO3) MG/L	0.7
CHLORIDE (AS CL) MG/L	171.0
SULFATE (AS SO4) MG/L	3,150.0
SILICA (AS SIO2) MG/L	702.5
CONDUCTIVITY, MICROMHOS/CM	17,700.0
SODIUM (AS NA) MG/L	2,232.0
FLUORIDE (AS F) MG/L	1,080.0
TOTAL SOLUBLE INORGANIC PHOSPHATE, MG/L	1,790.0
SOLUBLE ORTHO PHOSPHATE (AS PO4) MG/L	1,788.0
SOLUBLE POLY PHOSPHATE (AS PO4) MG/L	2.0

Drew Industrial Division/
Drew Amerold® Marine Division
ASHLAND CHEMICAL, INC. SUBSIDIARY OF ASHLAND OIL, INC.
One Drew Plaza, Boonton, New Jersey 07005

KANSAS CITY, KS.
LABORATORY

ANALYTICAL REPORT

WATER SAMPLE

SAMPLE FROM

OLIN CORP-JOLIET
JOLIET WORKS
PATTERSON RD
JOLIET IL OI 60436

RFA NUMBER 52168 -2
DATE SAMPLED 04/16/92
DATE RECEIVED 04/22/92
DATE REPORTED 05/04/92
DREW REPRESENTATIVE
FREYMARK SCOTT

****

SAMPLE NUMBER 02

SAMPLE DESCRIPTION NORTH POND

TEST DESCRIPTION	RESULTS
PH VALUE	7.9
P ALKALINITY (AS CACO3) MG/L	< 0.1
TOTAL ALKALINITY (AS CACO3) MG/L	273.0
TOTAL HARDNESS (AS CACO3) MG/L	576.5
CALCIUM (AS CACO3) MG/L	225.8
MAGNESIUM (AS CACO3) MG/L	350.7
CHLORIDE (AS CL) MG/L	20.0
SULFATE (AS SO4) MG/L	430.0
SILICA (AS SIO2) MG/L	4.9
CONDUCTIVITY, MICROMHOS/CM	1,270.0
SODIUM (AS NA) MG/L	27.1
FLUORIDE (AS F) MG/L	0.1
TOTAL SOLUBLE INORGANIC PHOSPHATE, MG/L	13.3
SOLUBLE ORTHO PHOSPHATE (AS PO4) MG/L	13.1
SOLUBLE POLY PHOSPHATE (AS PO4) MG/L	0.2

APPENDIX D

WASTE MANIFESTS FOR 1991 & 1992

SPECIAL

NOTE: FORM DESIGNED TO PRINT 8 LINES PER INCH.

State Form LPC 62 8/81 IL532-0610 | EPA Form 8700-22 (Rev. 6-89) | AND SPECIAL WASTE | Form Approved. OMB No. 2050-0039. Expires 9-30-91

UNIFORM ~~HAZARDOUS~~ WASTE MANIFEST	1. Generator's US EPA ID No. ILD 049 809 379	Manifest Document No. 91005	2. Page 1 of 1	Information in the shaded areas is not required by Federal law, but is required by Illinois law.

3. Generator's Name and Mailing Address: OLIN PATTERSON AND LARAWAY RDS JOLIET, IL 60436 — Location If Different:	A. Illinois Manifest Document Number IL4208623 MANIFEST FEE PAID
4. Generator's Phone (815) 727-4901	B. Illinois Generator's ID 1970415001
5. Transporter 1 Company Name: METROPOLITAN ENVIRONMENTAL — 6. US EPA ID Number: INT 190010374	C. Illinois Transporter's ID
	D. (219) 586-6638 Transporter's Phone
7. Transporter 2 Company Name — 8. US EPA ID Number	E. Illinois Transporter's ID
	F. ( ) Transporter's Phone
9. Designated Facility Name and Site Address: SYSTECH LIMEDALE RD. GREENCASTLE, IN. 46135 — 10. US EPA ID Number: IND 006 419 212	G. Illinois Facility's ID N/A
	H. Facility's Phone (317) 653-2606

11. US DOT Description (Including Proper Shipping Name, Hazard Class, and ID Number)	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol	I. Waste No.
a NON-HAZARDOUS USED OIL	001	TT	02	1	EPA HW Number X X N/A; Authorization Number N/A
b					EPA HW Number X X; Authorization Number
c					EPA HW Number X X; Authorization Number
d					EPA HW Number X X; Authorization Number

J. Additional Descriptions for Materials Listed Above: SYSTECH AUTHORIZATION # AA14994 OFF SPEC USED OIL	K. Handling Codes for Wastes Listed Above In Item # 14: 1 = Gallons 2 = Cubic Yards

15. Special Handling Instructions and Additional Information

16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations.

If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.

Printed/Typed Name	Signature	Date (Month Day Year)
CHRIS J. BIHOS	[signature]	04 26 91

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Date (Month Day Year)
William J. Nelson	[signature]	04 26 91

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Date (Month Day Year)

19. Discrepancy Indication Space

20. Facility Owner or Operator Certification of receipt of hazardous materials covered by this manifest except as noted in item 19.

Printed/Typed Name	Signature	Date (Month Day Year)
SHERRY MACKEY	Sherry Mackey	04 29 91

The Agency is authorized to require, pursuant to Illinois Revised Statutes, Chapter 111½ Section 21, that this information be submitted to the Agency. Failure to provide the information may result in a civil penalty against the owner or operator of not to exceed $25,000 per day of violation. Falsification of this information may result in a fine up to $50,000 per day of violation and imprisonment up to 5 years. This form has been approved by the Forms Management Center.

COPY 1. TSD MAIL TO GENERATOR

2200 CHATTERTON ROAD, SPRINGFIELD, ILLINOIS 62706 (217) 782-6761

LPC 62 8/81 (04)

NON-HAZARDOUS

Please print or type. (Form designed for use on elite (12-pitch) typewriter) EPA Form 8700-22 (3-84) Form Approved. OMB No 2050-0039. Expires 9-30-88

UNIFORM ~~HAZARDOUS~~ WASTE MANIFEST

1. Generator's US EPA ID No. ILD 049 809 379 | Manifest Document No. 91603

2. Page 1 of 1 | Information in the shaded areas is not required by Federal law, but is required by Illinois law.

3. Generator's Name and Mailing Address
OLIN CHEMICALS
PATTERSON & LARAWAY ROADS
JOLIET IL 60434

4. Generator's Phone (815) 727-4901

A. Illinois Manifest Document Number IL 1684760

B. Illinois Generator's ID 1197041590190

5. Transporter 1 Company Name: METROPOLITAN ENVIRONMENTAL

6. US EPA ID Number: INT 190010 397

C. Illinois Tranporter's ID 1171216

D. (419) 586 6638 Transporter's Phone

7. Transporter 2 Company Name

8. US EPA ID Number

E. Illinois Transporter's ID

F. Transporter's Phone

9. Designated Facility Name and Site Address
SYSTECH ENVIRONMENTAL
LIMEDALE ROAD
GREENCASTLE, IN. 46135

10. US EPA ID Number: IND 006 419 212

G. Illinois Facility's ID N/A

H. Facility's Phone (317) 653-2606

	11. US DOT Description (Including Proper Shipping Name, Hazard Class, and ID Number)	HM	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol	Waste No.
a.	NON-HAZARDOUS USED OIL (WASTE OIL)		001	TT	8,2,8,3,2	1	EPA HW Number XX N/A; Authorization Number N/A
b.							EPA HW Number XX; Authorization Number
c.							EPA HW Number XX; Authorization Number
d.							EPA HW Number XX; Authorization Number

J. Additional Descriptions for Materials Listed Above
SYSTECH AUTHORIZATION # AA 14994
OFF SPEC USED OIL

K. Handling Codes for Wastes Listed Above In Item 14
1 = Gallons 2 = Cubic Yards

15. Special Handling Instructions and Additional Information

16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations, and Illinois regulations.

Unless I am a small quantity generator who has been exempted by statute or regulation from the duty to make a waste minimization certification under Section 3002(b) of RCRA, I also certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and I have selected the method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment.

GENERATOR

Printed/Typed Name: CHRIS J. PSIHOS | Signature | Date: Month Day Year 04 26 91

TRANSPORTER

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name: DAVID E. WENNING | Signature | Date: Month Day Year 04 26 91

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name | Signature | Date: Month Day Year

FACILITY

19. Discrepancy Indication Space

20. Facility Owner or Operator Certification of receipt of hazardous materials covered by this manifest except as noted in item 19.

Printed/Typed Name: THOMAS N. FOWLER | Signature | Date: Month Day Year 04 27 91

IN ILLINOIS: 217 / 782-3637 "24 HOUR EMERGENCY AND SPILL ASSISTANCE NUMBERS" OUTSIDE ILLINOIS: 800 / 424-8802 or 202 / 426-2675

DISTRIBUTION: PART - 1 GENERATOR PART - 2 IEPA PART - 3 FACILITY PART - 4 TRANSPORTER PART - 5 IEPA PART - 6 GENERATOR

REV. 8/91

GENERATOR COPY - PART 1- DO NOT REMOVE PART 1 FROM SET UNTIL COMPLETED.

STATE OF ILLINOIS ENVIRONMENTAL PROTECTION AGENCY · DIVISION OF LAND POLLUTION CONTROL

P.O. BOX 19276 SPRINGFIELD, ILLINOIS 62794-9276 (217) 782-6761

State Form LPC 62 8/81 IL532-0610

FOR SHIPMENT OF HAZARDOUS, INFECTIOUS AND SPECIAL WASTE.

NOTE: FORM DESIGNED TO PRINT 8 LINES PER INCH. EPA Form 8700-22 (Rev. 6-89) Form Approved. OMB No. 2050-0039, Expires 9-30-91

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No. I L D 0 4 9 8 0 9 3 7 9 — Manifest Document No. 0 1 7 1 0 — 2. Page 1 of 1 — Information in the shaded areas is not required by Federal law, but is required by Illinois law.

3. Generator's Name and Mailing Address / Location If Different:
Olin Chemicals
Patterson Road - Post Office Box 2219
Joliet, Illinois 60433

4. Generator's Phone (815) 740-5496

A. Illinois Manifest Document Number: IL 4467699 MANIFEST FEE PAID

B. Illinois Generator's ID: 1 9 7 0 4 5 0 0 0 1

5. Transporter 1 Company Name: Chemical Waste Management-TSD — 6. US EPA ID Number: I L D 0 9 9 2 0 2 6 8 1 — C. Illinois Transporter's ID: 0 0 7 5 — D. (708) 396-1050 Transporter's Phone

7. Transporter 2 Company Name: Chemical Waste Management-Alsip — 8. US EPA ID Number: I L D 0 9 9 2 0 2 6 8 1 — E. Illinois Transporter's ID: 0 0 7 5 — F. (708) 396-1060 Transporter's Phone

9. Designated Facility Name and Site Address: Trade Waste Incineration, #7 Mobile Drive, Sauget, Illinois 62201 — 10. US EPA ID Number: I L D 0 9 8 6 4 2 4 2 4 — G. Illinois Facility's ID: 1 6 3 1 2 1 0 0 0 9 — H. Facility's Phone: 618 271-2804

11. US DOT Description (Including Proper Shipping Name, Hazard Class, and ID Number)	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol	I. Waste No.
a. Waste Flammable Liquid, nos. Flammable Liquid UN1993 LAB V93645	0.0.8	D.F	0,0,1,6,0	G	EPA HW Number: X X I D 1 0 1 0 1 1 — Authorization Number: 0 1 9 1 0 1 0 1 0 1 1
b. Waste Oxidizer, nos. Oxidizer UN1479 LAB V93645	0.0.5	D.F	0,0,1,0,0	G	EPA HW Number: X X I D 1 0 1 0 1 1 — Authorization Number: 0 1 9 1 0 1 0 1 0 1 1
c. Waste Acid, Liquid, nos Corrosive Material UN1760 LAB V93645	0.0.2	D.F	0,0,0,4,0	G	EPA HW Number: X X I D 1 0 1 0 1 3 — Authorization Number: 0 1 9 1 0 1 0 1 0 1 1
d. Waste Alkaline, Liquid, nos Corrosive Material UN1719 LAB V93645	0.0.2	D.F	0,0,0,4,0	G	EPA HW Number: X X I D 1 0 1 0 1 3 — Authorization Number: 0 1 9 1 0 1 0 1 0 1 1

J. Additional Descriptions for Materials Listed Above: All are labpacks
(a) OCT 7-13,19 D005, U003, P005, U196, U239, P022
(b) OCT 1-3,5-6 D007, D008, P005, P009, P011, P119, D004, D009, P010
(c) OCT 12-18 D004, D006,
(d) OCT 4, 16 D005,

K. Handling Codes for Wastes Listed Above In Item # 14: 1 = Gallons 2 = Cubic Yards

15. Special Handling Instructions and Additional Information
THIS MATERIAL MUST BE DISPATCHED NO LATER THAN 10/7/91 DAY MO. YR.
SIGNATURE
IN EVENT OF AN EMERGENCY Contact Chemical Waste Management, Inc. At (205) [illegible]

16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations.

If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.

GENERATOR — Printed/Typed Name: Brian Finnegan — Signature: [signature] — Date: Month Day Year: 0 7 0 1 9 1

17. Transporter 1 Acknowledgement of Receipt of Materials

TRANSPORTER — Printed/Typed Name: ROBERT L. KANN JR. — Signature: [signature] — Date: 0 7 0 1 9 1

18. Transporter 2 Acknowledgement of Receipt of Materials

TRANSPORTER — Printed/Typed Name: Maurice J. Tanis — Signature: Maurice J. Tanis — Date: 0 7 1 0 9 1

19. Discrepancy Indication Space
?

FACILITY — 20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in item 19. — Printed/Typed Name: Teresa Carey — Signature: [signature] — Date: 0 7 1 1 9 1

The Agency is authorized to require this information under Illinois Revised Statutes, Chapter 111½, Section 21, that this information be submitted to the Agency. Failure to provide the information may result in a civil penalty against the owner or operator of not to exceed $25,000 per day of violation. Falsification of this information may result in a fine up to $50,000 per day of violation and imprisonment up to 5 years. This form has been approved by the Forms Management Center.

COPY 1. TSD MAIL TO GENERATOR

In case of a spill call the Illinois Office of Emergency Response at 217/782-3637 and the National Response Center at 800/424-8802 or 202/426-2675.

1-7864

P.O. BOX 19276 SPRINGFIELD, ILLINOIS 62794-9276 (217) 782-6761

State Form LPC 62 8/81 IL532-0610

FOR SHIPMENT OF HAZARDOUS, INFECTIOUS AND SPECIAL WASTE.

NOTE: FORM DESIGNED TO PRINT 8 LINES PER INCH. **EPA Form 8700-22 (Rev. 6-89)** Form Approved. OMB No. 2050-0039, Expires 9-30-91

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No. L D 0 4 9 8 0 9 3 7 9 — Manifest Document No. 1 7 1 1

2. Page 1 of 1 — Information in the shaded areas is not required by Federal law, but is required by Illinois law.

3. Generator's Name and Mailing Address / Location If Different:
Olin Chemicals
Patterson Road - Post Office Box 2219
Joliet, Illinois 60433

4. Generator's Phone (815) 740-5496

A. Illinois Manifest Document Number: IL 4467700 MANIFEST FEE PAID

B. Illinois Generator's ID: 1 1 9 7 0 4 5 0 0 0 1

5. Transporter 1 Company Name: Chemical Waste Management-TSD — 6. US EPA ID Number: I L D 0 0 9 9 2 0 2 6 8 1

C. Illinois Transporter's ID: 1 0 0 7 5

D. (708) 396-1050 Transporter's Phone

7. Transporter 2 Company Name: Chemical Waste Management-Alsip — 8. US EPA ID Number: I L D 0 0 9 9 2 0 2 6 8 1

E. Illinois Transporter's ID: 1 0 0 7 5

F. (708) 396-1060 Transporter's Phone

9. Designated Facility Name and Site Address: Trade Waste Incineration, #7 Mobile Drive, Sauget, Illinois 62201 — 10. US EPA ID Number: I L D 0 0 9 8 6 4 2 4 2 4

G. Illinois Facility's ID: 1 1 6 1 3 1 2 1 0 1 0 1 9

H. Facility's Phone: 618 271-2804

11. US DOT Description (Including Proper Shipping Name, Hazard Class, and ID Number)	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol	Waste No.
a. Waste Oxidizer, nos Oxidizer UN1479 LAB V9 3645	0.0.1	D M	0 0 0 5 5	G	EPA HW Number: X X P 1 0 1 6 1 1 Authorization Number: 0 9 1 0 1 0 1 0 1 1
b. Waste Acid, Liquid, nos (Poison Inhalation Hazard) Corrosive Material NA 1719 LAB V9 3645	0.0.2	D F	0 0 0 2 5	G	EPA HW Number: X X P D 1 0 1 0 P Authorization Number: 0 9 1 0 1 0 1 0 1 1
c. Waste Poison B Liquid, nos (Arsenic, Lead, and Mercury compounds, p-nitrophenol, Ammonium metavanadate, Brucine, 2,4 Dinitrophenol) Poison B UN2810 LAB V9 3645	0.0.1	D M	0 0 0 5 5	G	EPA HW Number: X X P P 1 1 1 1 9 Authorization Number: 0 9 1 0 1 0 1 0 1 1
d. Waste Poison B Liquid, nos (Potassium Cyanide, Phenol, Lead compounds) Poison B UN2810 DOT-E 9723 LAB V9 3645	0.0.1	D F	0 0 0 2 0	G	EPA HW Number: X X P 1 0 1 9 1 8 Authorization Number: 0 9 1 0 1 0 1 0 1 1

J. Additional Descriptions for Materials Listed Above: All are Lab Packs
11a) OCT-15 P119, D007, D005, P120,
11b) OCT 20-21 D003
11c) OCT 14 U170, P012, D005, D008, D009, D011, P018, U144, P048
11d) OCT 24 D008, U144, U189

K. Handling Codes for Wastes Listed Above In Item # 14
1 = Gallons 2 = Cubic Yards

IN EVENT OF AN EMERGENCY
Contact Chemical Waste Management, Inc.
At (208) 542-0721

15. Special Handling Instructions and Additional Information

16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations.

If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.

GENERATOR — Printed/Typed Name: BRIAN FINNEGAN — Signature: Brian Finnegan — Date (Month Day Year): 07 01 91

TRANSPORTER

17. Transporter 1 Acknowledgement of Receipt of Materials — Printed/Typed Name: ROBERT L. KANN JR. — Signature: Robert L. Kann Jr. — Date: 07 01 91

18. Transporter 2 Acknowledgement of Receipt of Materials — Printed/Typed Name: Maurice J. Tanis — Signature: Maurice J. Tanis — Date: 07 11 91

FACILITY

19. Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in item 19. — Printed/Typed Name: Teresa Carey — Signature: Teresa Carey — Date: 07 11 91

COPY 1. TSD MAIL TO GENERATOR

1-78164

P.O. BOX 19276 SPRINGFIELD, ILLINOIS 62794-9276 (217) 782-6761

State Form LPC 62 8/81 IL532-0610

FOR SHIPMENT OF HAZARDOUS, INFECTIOUS AND SPECIAL WASTE.

NOTE: FORM DESIGNED TO PRINT 8 LINES PER INCH. EPA Form 8700-22 (Rev. 6-89) Form Approved. OMB No. 2050-0039, Expires 9-30-91

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No. L D 0 4 9 8 0 9 3 7 9 — Manifest Document No. 1 7 1 2

2. Page 1 of 1

Information in the shaded areas is not required by Federal law, but is required by Illinois law.

3. Generator's Name and Mailing Address — Location If Different:
Olin Chemicals
Patterson Road - Post Office Box 2219
Joliet, Illinois 60433

4. Generator's Phone (815) 740-5496

A. Illinois Manifest Document Number IL 4467702 MANIFEST FEE PAID

B. Illinois Generator's ID 1 9 7 0 4 5 0 0 0 1

5. Transporter 1 Company Name: Chemical Waste Management-TSD
6. US EPA ID Number: I L D 0 9 9 2 0 2 6 8 1

C. Illinois Transporter's ID 0 0 7 5
D. (708) 396-1050 Transporter's Phone

7. Transporter 2 Company Name: Chemical Waste Management-Alsip
8. US EPA ID Number: I L D 0 9 9 2 0 2 6 8 1

E. Illinois Transporter's ID 0 0 7 5
F. (708) 396-1060 Transporter's Phone

9. Designated Facility Name and Site Address:
Trade Waste Incineration
#7 Mobile Drive
Sauget, Illinois 62201

10. US EPA ID Number: I L D 0 9 8 6 4 2 4 2 4

G. Illinois Facility's ID 1 6 3 1 2 1 0 0 0 9
H. Facility's Phone (618) 271-2804

11. US DOT Description (Including Proper Shipping Name, Hazard Class, and ID Number)	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol	L. Waste No.
a. Waste Acid Liquid, nos Corrosive Material NA1760 LAB V93646	0 0 1	D F	0 0 0 2 0	1 G	EPA HW Number X X 0 0 0 2; Authorization Number 0 9 0 0 0 0 1 1
b. Waste Water Reactive Solid, n.o.s. (Dangerous when Wet) Flammable Solid UN 2813 LABV93645	0 0 1	D F	0 0 0 2 0	1 G	EPA HW Number X X 0 0 0 3; Authorization Number 0 9 0 0 0 0 1 1
c. Waste Water Reactive Solid, nos (Dangerous When Wet) Flammable Solid UN 2813 LAB V93645	0 0 1	C W	0 0 0 0 5	1 G	EPA HW Number X X 0 0 0 3; Authorization Number 0 9 0 0 0 0 1 1
c. Waste ORM-A, nos ORM-A NA1693 LAB V93645	0 0 2	D F	0 0 0 1 0	1 G	EPA HW Number X X 0 2 2 6; Authorization Number 0 9 0 0 0 0 1 1

J. Additional Descriptions for Materials Listed Above
11a) OCD-7 none Decant
11b) OCT-25 D001, D003 Lab Pack
11c) OCT-26 D010, D001, D007 Lab Pack
11d) OCT 22-23 U211, U044 Lab Pack

K. Handling Codes for Wastes Listed Above In Item # 14
1 = Gallons 2 = Cubic Yards

15. Special Handling Instructions and Additional Information

IN EVENT OF AN EMERGENCY Contact Chemical Waste Management, Inc.

16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations.

If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.

Printed/Typed Name	Signature	Date (Month Day Year)
BRIAN FINNEGAN	[signature]	07 20 91

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Date (Month Day Year)
ROBERT L. KANN JR.	Robert L. Kann Jr.	07 20 91

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Date (Month Day Year)
Maurice J. Tanis	Maurice J. Tanis	07 10 91

19. Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in item 19.

Printed/Typed Name	Signature	Date (Month Day Year)
Teresa Carey	[signature]	07 11 91

This Agency is authorized to require, pursuant to Illinois Revised Statutes, Chapter 111½ Section 21, that this information be submitted to the Agency. Failure to provide the information may result in a civil penalty against the owner or operator of not to exceed $25,000 per day of violation. Falsification of this information may result in a fine up to $50,000 per day of violation and imprisonment up to 5 years. This form has been approved by the Forms Management Center.

TO MAIL TO GENERATOR

1-78665 A
1-78664 B-D

SAFETY-KLEEN CORP
STATE PRESCRIBED FORM P.O. BOX 19276 SPRINGFIELD, ILLINOIS 62794-9276 (217) 782-6761
State Form LPC 62 9/81 IL532-0610
FOR SHIPMENT OF HAZARDOUS, INFECTIOUS AND SPECIAL WASTE.

TYPE: FORM DESIGNED TO PRINT 8 LINES PER INCH
EPA Form 8700-22 (6-89)
Form Approved. OMB No. 2050-0039 Expires 9-30-9

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.: ILD049809379
Manifest Document No.: 25794
2. Page 1 of 1
Information in the shaded areas is not required by Federal law, but is required by Illinois law.

3. Generator's Name and Mailing Address: Olin Chemical, Patterson Rd, Joliet Il 60434 ~~Patterson Rd~~
4. Generator's Phone (815) 727 4901
Location If Different:

A. Illinois Manifest Document Number: IL 5141048
MANIFEST FEE PAID
B. Illinois Generator's ID: 1970450010
C. Illinois Transporter's ID
D. Transporter's Phone: 708 479 1064
E. Illinois Transporter's ID
Transporter's Phon
G. Illinois Facility's ID: 0310690006
H. Facility's Phone: 708 849 4850

5. Transporter 1 Company Name: Safety Kleen Corp
6. US EPA ID Number: ILD051060408
7. Transporter 2 Company Name
8. US EPA ID Number
9. Designed Facility Name and Site Address: Safety Kleen Corp, 633 E 138th St, Dolton Il 60419
10. US EPA ID Number: ILD980613913

11. US DOT Description (Including Proper Shipping Name, Hazard Class and ID Number)	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol	Waste No.
a. RQ Waste Combustible Liquid NOS (oil) NA1993 (D001) ERG#27	004	DM	00150	1	EPA HW Number: X X D 0 0 1 Authorization Number: 0 0 0 1 6 1
b. RQ Hazardous Waste Liquid NOS ORM-E NA9189 (F001) ERG#31	032	DM	01600	1	EPA HW Number: X X F 0 0 1 Authorization Number: 0 0 0 1 6 2
c. ~~Petroleum Oil Combustible Liquid NA1270 ERG# 27 (Not USEPA Hazardous Waste)~~	~~000~~ 2	~~DM~~	~~00000~~ 2	1	EPA HW Number: Authorization Number: 0 0 0 1 6 4
d.					EPA HW Number: Authorization Number:

J. Additional Descriptions for Materials Listed Above
Sample # 209095a
209093b
~~209088a~~

K. Handling Codes for Wastes Listed Above in Item #14
1 = Gallons 2 = Cubic Yards
Sol-Haz RQ

15. Special Handling Instructions and Additional Information
Emergency Resp# 708 888 4660 24hr 752709
SK DOT# 3002a 1063b ~~1061 C~~ 5-034-05-9165 M26794
2991942

16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations.
If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.

Printed/Typed Name: BRIAN FINNEGAN
Signature:
Date: Month 07 Day 17 Year 91

TRANSPORTER

17. Transporter 1 Acknowledgement of Receipt of Materials
Printed/Typed Name: JAMES RACHALI
Signature:
Date: Month 07 Day 17 Year 91

18. Transporter 2 Acknowledgement of Receipt of Materials
Printed/Typed Name: ~~BRIAN FINNEGAN~~
Signature:
Date: Month 07 Day 17 Year 91

FACILITY

19. Discrepancy Indication Space
Cross out Line 16 Generator signed in wrong place
NO WASTE PICKED UP HE 12C 13 JUL 30 1991

20. Facility Owner or Operator Certification of receipt of hazardous materials covered by this manifest except as noted in item 19.
Printed/Typed Name:
Signature:
Date: Month 07 Day 17 Year 91

COPY 3 TSD COPY

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY DIVISION OF LAND POLLUTION CONTROL
P.O. BOX 19276 SPRINGFIELD, ILLINOIS 62794-9276 (217) 782-6761
State Form LPC 62 8/81 IL532-0610
SAFETY-KLEEN CORP. ... PRESCRIBED FORM
... DESIGNED TO PRINT 8 LINES PER INCH
EPA Form 8700-22 (6-89)
FOR SHIPMENT OF HAZARDOUS, INFECTIOUS AND SPECIAL WASTE
Form Approved. OMB No. 2050-0039 Expires 9-30-91

Attn: Vicki Ray

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.: ILD049809379 Manifest Document No.: 25794
2. Page 1 of 1
Information in the shaded areas is not required by Federal law, but is required by Illinois law.

3. Generator's Name and Mailing Address: Olin Chemical, Patterson Rd, Joliet Il 60434
Location If Different:
4. Generator's Phone (815) 727 4901
A. Illinois Manifest Document Number: IL 5141050
B. Illinois Generator's ID: 1970450010
5. Transporter 1 Company Name: Safety Kleen Corp
6. US EPA ID Number: ILD051060408
C. Illinois Transporter's ID
D. Transporter's Phone: 708 479 1064
7. Transporter 2 Company Name: Schreiber Trucking
8. US EPA ID Number: WID980904742
E. Illinois Transporter's ID: F00134785
F. Transporter's Phone
9. Designated Facility Name and Site Address: Safety Kleen Corp, State Hwy 146, New Castle Ky 40050
10. US EPA ID Number: KYD053348108
G. Illinois Facility's ID
H. Facility's Phone: (502 845 2453

11. US DOT Description (Including Proper Shipping Name, Hazard Class and ID Number)	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol	I. Waste No.
a. RQ Waste Combustible Liquid NOS (oil) NA1993 (D018) ERG#27	007	DM	00350 (~~00400~~)	1	EPA HW Number: D018
b.					EPA HW Number / Authorization Number
c.					EPA HW Number / Authorization Number
d.					EPA HW Number / Authorization Number

J. Additional Descriptions for Materials Listed Above: Sample # 209097
K. Handling Codes for Wastes Listed Above: in Item 14: 1 = Gallons 2 = Cubic Yards
S01/T02

15. Special Handling Instructions and Additional Information
Emergency Resp# 708 888 4660 24hr
3096 SK DOT 5-034-05- 9165 M26794 30403208

16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations.

If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.

Printed/Typed Name: Brian Finn... Signature: [signature] Date: 07/12/91

17. Transporter 1 Acknowledgement of Receipt of Materials
Printed/Typed Name: James Rachau Signature: [signature] Date: 07/17/91

18. Transporter 2 Acknowledgement of Receipt of Materials
Printed/Typed Name: John RELLIS Signature: [signature] Date: 07/26/91

19. Discrepancy Indication Space
CROSSOUT IN 13A

20. Facility Owner or Operator Certification of receipt of hazardous materials covered by this manifest except as noted in item 19.
Printed/Typed Name: Angela Atkinson Signature: [signature] Date: 07/30/91

In case of a spill call the Illinois Office of Emergency Response at 217/782-3637 and the National Response Center at 800/424-8802 or 202/426-2675.

COPY 3 TSD COPY

STATE OF ILLINOIS ENVIRONMENTAL PROTECTION AGENCY DIVISION OF LAND POLLUTION CONTROL

SAFETY-KLEEN CORP STATE PRESCRIBED FORM P.O. BOX 19276 SPRINGFIELD, ILLINOIS 62794-9276 (217) 782-6761 FOR SHIPMENT OF HAZARDOUS, INFECTIOUS AND SPECIAL WASTE

State Form LPC 62 8/81 IL532-0610

NOTE: FORM DESIGNED TO PRINT 8 LINES PER INCH EPA Form 8700-22 (6-89) Form Approved. OMB No. 2050-0039 Expires 9-30-91

UNIFORM HAZARDOUS WASTE MANIFEST	1. Generator's US EPA ID No. ILD049809379	Manifest Document No. 25794	2. Page 1 of 1	Information in the shaded areas is not required by Federal law, but is required by Illinois law.

3. Generator's Name and Mailing Address — Location If Different:
Olin Chemical
Patterson Rd
Joliet Il 60434

4. Generator's Phone (815) 727 4901

A. Illinois Manifest Document Number IL 5141052 MANIFEST FEE PAID
B. Illinois Generator's ID 1970450010

5. Transporter 1 Company Name: Safety Kleen Corp
6. US EPA ID Number: ILD051060408
C. Illinois Transporter's ID 1123
D. Transporter's Phone 708 479 1064

7. Transporter 2 Company Name
8. US EPA ID Number
E. Illinois Transporter's ID
F. Transporter's Phone

9. Designated Facility Name and Site Address:
Safety Kleen Corp
633 E 138th St
Dolton Il 60419
10. US EPA ID Number: ILD980613913
G. Illinois Facility's ID 0310690006
H. Facility's Phone 708 849 4850

11. US DOT Description (Including Proper Shipping Name, Hazard Class and ID Number)	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol	I. Waste No.
a. RQ Waste Combustible Liquid NOS (oil) NA1993 (D001) ERG#27	004	DM	00180	1	EPA HW Number X X D 0 0 1; Authorization Number 0 0 0 1 4 6 1
b. RQ Hazardous Waste Liquid NOS ORM-E NA9189 (F001) ERG#31	012 ~~08~~	DM	00550	1	EPA HW Number X X F 0 0 1; Authorization Number 0 0 0 1 6 2
c.					EPA HW Number X X; Authorization Number
d.					EPA HW Number X X; Authorization Number

J. Additional Descriptions for Materials Listed Above
Sample # 209095a
209093b

K. Handling Codes for Wastes Listed Above
1 = Gallons 2 = Cubic Yards
S01 S02 R05
S01 S02 R05

15. Special Handling Instructions and Additional Information
Emergency Resp# 708 888 4660 24hr
SK DOT# 3002a 1063b 5-034-05-9165 M25794

16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations.

If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford. 3039685?

Printed/Typed Name: Brian Finnegan Signature: [signature] Date: Month Day Year 07 17 91

17. Transporter 1 Acknowledgement of Receipt of Materials
Printed/Typed Name: James Rachay Signature: James Rachay Date: Month Day Year 07 17 91

18. Transporter 2 Acknowledgement of Receipt of Materials
Printed/Typed Name Signature Date: Month Day Year

MAILED AUG 11 1991

19. Discrepancy Indication Space
CROSS OUT IN 12B

20. Facility Owner or Operator Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.
Printed/Typed Name: Cyrus Adams Signature: On behalf of Safety Kleen Cyrus Adams Date: Month Day Year 07 22 91

This Agency is authorized to require, pursuant to Illinois Revised Statutes, Chapter 111½ Section 21, that this information be submitted to the Agency. Failure to provide the information may result in a civil penalty against the owner or operator of not to exceed $25,000 per day of violation. Falsification of this information may result in a fine up to $50,000 per day of violation and imprisonment up to 5 years. This form has been approved by the Forms Management Center.

COPY 3 TSD COPY

P.O. BOX 19276 SPRINGFIELD, ILLINOIS 62794-9276 (217) 782-6761 FOR SHIPMENT OF HAZARDOUS, INFECTIOUS AND SPECIAL WASTE

State Form LPC 62 8/81 IL532-0610

NOTE: FORM DESIGNED TO PRINT 8 LINES PER INCH. EPA Form 8700-22 (Rev. 6-89) Form Approved. OMB No. 2050-0039, Expires 9-30-91

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No. ILD049809379 Manifest Document No. 91754
2. Page 1 of 1

Information in the shaded areas is not required by Federal law, but is required by Illinois law.

3. Generator's Name and Mailing Address: Olin Chemicals, Patterson Road - Post Office Box 221 9, Joliet, Illinois 60433 — Location If Different:
4. Generator's Phone (815) 740-5496

A. Illinois Manifest Document Number: IL 4467734 MANIFEST FEE PAID
B. Illinois Generator's ID 1970450001

5. Transporter 1 Company Name: Chemical Waste Management-TSD
6. US EPA ID Number: ILD099202681
C. Illinois Transporter's ID 0175
D. (708) 396-1050 Transporter's Phone

7. Transporter 2 Company Name: Chemical Waste Management-Alsip
8. US EPA ID Number: ILD099202681
E. Illinois Transporter's ID 0175
F. 708) 396-1060 Transporter's Phone

9. Designated Facility Name and Site Address: Trade Waste Incineration, #7 Mobile Avenue, Sauget, Illinois 62201
10. US EPA ID Number: ILD098642424
G. Illinois Facility's ID 1631210009
H. Facility's Phone (618) 271-2804

11. US DOT Description (Including Proper Shipping Name, Hazard Class, and ID Number)	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol	I. Waste No.
a. Waste Sodium Permanganate Solution Oxidizer UN1503 LAB418283	001	DM	00055	1 G	EPA HW Number XXD001; Authorization Number 090001
b. Waste Acid Liquid, N.O.S. Corrosive Material NA1760 LAB418283	001	DM	00030	1 G	EPA HW Number XXD006; Authorization Number 090001
c.					EPA HW Number XX; Authorization Number
d.					EPA HW Number XX; Authorization Number

J. Additional Descriptions for Materials Listed Above: The above are repacks
11a) Drum # OCR-2
11b) Drum # OCR-1 codes: 4134

K. Handling Codes for Wastes Listed Above In Item # 14.
1 = Gallons 2 = Cubic Yards

15. Special Handling Instructions and Additional Information: MUST BE DISPATCHED NO LATER THAN 07/11/91 DAY MO. YR. SIGNATURE [signature]

IN CASE OF AN EMERGENCY Contact Chemical Waste Management, Inc. At (205) 652-9721

16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations.

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Printed/Typed Name: Brian Finnegan — Signature: [signature] — Date (Month Day Year): 07 09 91

17. Transporter 1 Acknowledgement of Receipt of Materials
Printed/Typed Name: Edward Sanchez — Signature: [signature] — Date (Month Day Year): 07 09 91

18. Transporter 2 Acknowledgement of Receipt of Materials
Printed/Typed Name: CRAIG DOORNBOS — Signature: [signature] — Date (Month Day Year): 07 17 91

19. Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in item 19.
Printed/Typed Name: Cynthia A. Williams — Signature: [signature] — Date (Month Day Year): 07 22 91

This Agency is authorized to require, pursuant to Illinois Revised Statutes, Chapter 111½, Section 21, that this information be submitted to the Agency. Failure to provide the information may result in a civil penalty against the owner or operator of not to exceed $25,000 per day of violation. Falsification of the information may result in a fine up to $50,000 per day of violation and imprisonment up to 5 years. This form has been approved by the Forms Management Center.

COPY 1. TSD MAIL TO GENERATOR

1-8185

STATE OF LOUISIANA
DEPARTMENT OF ENVIRONMENTAL QUALITY
HAZARDOUS WASTE DIVISION
P.O. BOX 82178
BATON ROUGE, LOUISIANA 70884-2178

20403162

PLEASE PRINT OR TYPE (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039. Expires 9-30-92

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.: ILD049809379 | Manifest Document No.: 1 0 1 9 2
2. Page 1 of 1
Information in the shaded areas is not required by Federal law.

3. Generator's Name and Mailing Address
Olin Chemical Company
Patterson Road
Joliet, Illinois 60434
4. Generator's Phone (815) 727-5971

A. State Manifest Document Number: LAA 3125084
B. State Generator's ID

5. Transporter 1 Company Name: Chemical Waste Management, Inc.
6. US EPA ID Number: ILD099202681
C. State Transporter's ID: 0075
D. Transporter's Phone: 708/396-1926

7. Transporter 2 Company Name
8. US EPA ID Number
E. State Transporter's ID
F. Transporter's Phone

9. Designated Facility Name and Site Address
Chemical Waste Management, Inc.
John Brannon Road
Carlyss, Louisiana 70663
10. US EPA ID Number: LAD000777201
G. State Facility's ID
H. Facility's Phone: 318/583-2169

11. US DOT Description (Including Proper Shipping Name, Hazard Class, and ID Number)	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol	I. Waste No.
a. Non-Regulated Material LAB AM6346	053	DM	030A0	G	NH
b. Non-Regulated Material LAB AM 6346	003	DF	00165	G	NH.
c. Non-Regulated Material LAB AM 6348	006	DM	00330	G	NH
d.					

J. Additional Descriptions for Materials Listed Above: All of the above are bulk drums
(a) Drum # OC 23,24,27,33,39-46,48,53,56-60,63,73,75,84,87, 89,90,95,104,106,107,114,121,123,124,127,137,139,142,144,145, 150,153-159,161 OC 29,50,126,138,92,136,156 are overpacks
(b) Drum # OC 83,99,100
(c) Drum # OC 28,32,37,49,125,149

K. Handling Codes for Wastes Listed Above
M132, M142, M111
M142, M111, M132
M142, M111, M132

15. Special Handling Instructions and Additional Information
In event of an emergency contact Chemical Waste Management, Inc. at (205)652-9721.
For any manifest discrepancy, contact Alsip Technical Services Division at (708)396-1926
No ERG#'s are applicable - in case of spill absorb with bentonite
72050602

16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations.
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Printed/Typed Name: GEORGE W. THOMPSON | Signature: George W. Thompson | Month Day Year: 07 30 92

TRANSPORTER
17. Transporter 1 Acknowledgement of Receipt of Materials
Printed/Typed Name: Donald Carine | Signature: [signature] | Month Day Year: 07 30 92

18. Transporter 2 Acknowledgement of Receipt of Materials
Printed/Typed Name | Signature | Month Day Year

FACILITY
19. Discrepancy Indication Space

20. Facility Owner or Operator Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.
Printed/Typed Name: M Moisser | Signature: [signature] | Month Day Year: 08 06 92

IF SPILLED IN LOUISIANA CALL THE LOUISIANA HAZMAT UNIT AT 504/925-6595 (DAY OR NIGHT)

COPY 3

EPA Form 8700-22 (Rev. 9/88) Previous edition is obsolete.

COPY 3: FACILITY RETAINS

DEQ FORM HW-3 (R 9/89)

STATE OF LOUISIANA
DEPARTMENT OF ENVIRONMENTAL QUALITY
HAZARDOUS WASTE DIVISION
P.O. BOX 82178
BATON ROUGE, LOUISIANA 70884-2178

FILE BM 4/24 CW

PLEASE PRINT OR TYPE (Form designed for use on elite (12-pitch) typewriter)

Form Approved. OMB No. 2050-0039. Expires 9-30-92

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.: I L D 0 4 9 8 0 9 3 7 9 1 — Manifest Document No.: D P S 9 2
2. Page 1 of 1
Information in the shaded areas is not required by Federal law.

3. Generator's Name and Mailing Address
Olin Chemical Company
Patterson Road
Joliet, Illinois 60434
4. Generator's Phone (815) 727-5971

A. State Manifest Document Number: LA A 3125085
B. State Generator's ID:

5. Transporter 1 Company Name: Chemical Waste Management, Inc.
6. US EPA ID Number: I L D 0 9 9 2 0 2 6 8 1
C. State Transporter's ID: 0 0 7 5
D. Transporter's Phone: 708/396-1926

7. Transporter 2 Company Name:
8. US EPA ID Number:
E. State Transporter's ID:
F. Transporter's Phone:

9. Designated Facility Name and Site Address
Chemical Waste Management, Inc.
John Brannon Road
Carlyss, Louisiana 70663
10. US EPA ID Number: L A D 0 0 0 7 7 7 2 0 1
G. State Facility's ID:
H. Facility's Phone: 318/583-2169

11. US DOT Description (Including Proper Shipping Name, Hazard Class, and ID Number)	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol	Waste No.
a. Waste Corrosive liquid, n.o.s. (Sodium hydroxide) Corrosive Material UN 1760 RQ(2000) LAB AM 6352	005	DM	00330	G	D002
b. Waste Alkaline liquid, n.o.s. (Diethylethanolamine) Corrosive Material NA1719 RQ(5000) LAB AM 6354	001	DM	00055	G	D002
c. Waste Alkaline liquid, n.o.s. (Sodium Silicate) Corrosive Material NA1719 RQ(5000) LAB AM 6357	011	DM	00550	G	D002
d. Waste Alkaline liquid, n.o.s. (Sodium and Potassium Silicates) Corrosive Material NA1719 RQ(5000) LAB AM 6359	003	DM	00115	G	D002

J. Additional Descriptions for Materials Listed Above — All of the above are DOT drums
a) Drums DC 21, 103, 109, 140; DC 105 & overpack
b) Drums DC 101
c) Drums DC 1-8, 13, 98
d) Drums DC 14; 00 148, 166 are overpacks

K. Handling Codes for Wastes Listed Above
a) M132, M142, M111
b) M132, M142, M111
c) M132, M142, M111
d) M132, M142, M111

15. Special Handling Instructions and Additional Information

In event of an emergency contact Chemical Waste Management, Inc. at (205)652-9721.
For any manifest disprepancy, contact Alsip Technical Services Division at (708)396-1925

ERG #'s - 1824
120 & 123

16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations.

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Printed/Typed Name: GEORGE THOMPSON
Signature: George Thompson
Month Day Year: 01 06 93

17. Transporter 1 Acknowledgement of Receipt of Materials
Printed/Typed Name: WALTER McCahill
Signature: Walter McCahill
Month Day Year: 08 05 92

18. Transporter 2 Acknowledgement of Receipt of Materials
Printed/Typed Name:
Signature:
Month Day Year:

19. Discrepancy Indication Space

20. Facility Owner or Operator Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.
Printed/Typed Name: C. Hodges
Signature: C. Hodges
Month Day Year: 08 04 92

IF SPILLED IN LOUISIANA CALL THE LOUISIANA HAZMAT UNIT AT 504/925-6595 (DAY OR NIGHT)

GENERATOR — TRANSPORTER — FACILITY

EPA Form 8700-22 (Rev. 3/88) Previous edition is obsolete.

COPY 3: FACILITY RETAINS

DEQ FORM HW-3 (R 8/90)

BM CUSSOU 204129 CY

STATE OF LOUISIANA
DEPARTMENT OF ENVIRONMENTAL QUALITY
HAZARDOUS WASTE DIVISION
P.O. BOX 82178
BATON ROUGE, LOUISIANA 70884-2178

PLEASE PRINT OR TYPE (Form designed for use on elite (12-pitch) typewriter.)

FILE

Form Approved. OMB No. 2050-0039. Expires 9-30-92

UNIFORM HAZARDOUS WASTE MANIFEST	1. Generator's US EPA ID No. ILD 980937910	Manifest Document No. 0692	2. Page 1 of 1	Information in the shaded areas is not required by Federal law.

3. Generator's Name and Mailing Address
Olin Chemical Company
Patterson Road
Joliet, Illinois 60434
4. Generator's Phone (815) 727-5971

A. State Manifest Document Number LA A 3125086
B. State Generator's ID

5. Transporter 1 Company Name: Chemical Waste Management, Inc.
6. US EPA ID Number: ILD099202681
C. State Transporter's ID: 0075
D. Transporter's Phone: 708/396-1926

7. Transporter 2 Company Name
8. US EPA ID Number
E. State Transporter's ID
F. Transporter's Phone

9. Designated Facility Name and Site Address
Chemical Waste Management, Inc.
John Brannon Road
Carlyss, Louisiana 70663
10. US EPA ID Number: LAD000777201
G. State Facility's ID
H. Facility's Phone: 318/583-2169

11. US DOT Description (Including Proper Shipping Name, Hazard Class, and ID Number)	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol	I. Waste No.
a. Non-Regulated Material LAB AM6349	032	DM	01825	G	NH
b. Non-Regulated Material LAB AM 6353	002	DM	00105	G	NH
c. Non-Regulated Material LAB AM 6361	003	DM	00165	G	NH
d. Non-Regulated Material LAB AM 6361	001	DF	00055	G	NH

J. Additional Descriptions for Materials Listed Above: All of the above are bulk drums
(a) Drum # OC 25,47,54,55,64,65,67,71,72,76-81,120,123,148
OC 66,68,69,74,85,86,88,97,110,112,113,115-117 are overpacks
(b) Drum # OC 134, OC 17 is overpack
(c) Drum # OC 22,131,133
(d) Drum # OC 132

K. Handling Codes for Wastes Listed Above
M132, M142, M111
M142, M111, M132
M142, M111, M132
M142, M111, M132

15. Special Handling Instructions and Additional Information
In event of an emergency contact Chemical Waste Management, Inc. at (205)652-9721.
For any manifest discrepancy, contact Alsip Technical Services Division at (708)396-1926
No ERG #'s are applicable - in case of spill absorb with bentonite
12066623

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Printed/Typed Name: GEORGE THOMPSON | Signature: George Thompson | Month Day Year: 080592

17. Transporter 1 Acknowledgement of Receipt of Materials
Printed/Typed Name: WALTER McCAHILL | Signature: Walter McCahill | Month Day Year: 080592

18. Transporter 2 Acknowledgement of Receipt of Materials
Printed/Typed Name | Signature | Month Day Year

19. Discrepancy Indication Space

20. Facility Owner or Operator Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.
Printed/Typed Name: C.K. Walker | Signature: C.K. Walker | Month Day Year: 080792

IF SPILLED IN LOUISIANA CALL THE LOUISIANA HAZMAT UNIT AT 504/925-6595 (DAY OR NIGHT)

EPA Form 8700-22 (Rev. 9-88) Previous edition is obsolete.
DEQ FORM HW-3 (R 9/89)

STATE OF LOUISIANA
DEPARTMENT OF ENVIRONMENTAL QUALITY
HAZARDOUS WASTE DIVISION
P.O. BOX 82178
BATON ROUGE, LOUISIANA 70884-2178

PLEASE PRINT OR TYPE (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039. Expires 9-30-92

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.: L D 0 4 9 3 3 0 3 7 9 | Manifest Document No.: 1
2. Page 1 of 1
Information in the shaded areas is not required by Federal law.

3. Generator's Name and Mailing Address:
Olin Chemical Company
Patterson Road
Joliet, Illinois 60434
4. Generator's Phone (315) 727-5971

A. State Manifest Document Number: LAA 3125091
B. State Generator's ID:

5. Transporter 1 Company Name: Chemical Waste Management, Inc.
6. US EPA ID Number: I L D 0 9 9 2 0 2 6 8 1
C. State Transporter's ID: 0075
D. Transporter's Phone: 708/396-1926

7. Transporter 2 Company Name:
8. US EPA ID Number:
E. State Transporter's ID:
F. Transporter's Phone:

9. Designated Facility Name and Site Address:
Chemical Waste Management, Inc.
John Brannon Road
Carlyss, Louisiana 70663
10. US EPA ID Number: L A D 0 0 0 7 7 7 2 0 1
G. State Facility's ID:
H. Facility's Phone: 318/583-2169

11. US DOT Description (Including Proper Shipping Name, Hazard Class, and ID Number)	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol	I. Waste No.
a. Non-Regulated Material LAB AM6364	001	DF	00200	P	NH
b.					
c.					
d.					

J. Additional Descriptions for Materials Listed Above: All of the above are bulk solids
11a) Drum # OC102

K. Handling Codes for Wastes Listed Above: M132, M142

15. Special Handling Instructions and Additional Information
In event of an emergency contact Chemical Waste Management, Inc. at (205)652-9721.
For any manifest discrepancy, contact Alsip Technical Services Division at (708)396-1926
NO ERG #'s are applicable.
20CU0U62

16. **GENERATOR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations.
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Printed/Typed Name: GEORGE THOMPSON | Signature: George Thompson | Month Day Year: 08 05 92

17. Transporter 1 Acknowledgement of Receipt of Materials
Printed/Typed Name: WALTER McCAHILL | Signature: Walter McCahill | Month Day Year: 08 05 92

18. Transporter 2 Acknowledgement of Receipt of Materials
Printed/Typed Name: | Signature: | Month Day Year:

19. Discrepancy Indication Space

20. Facility Owner or Operator Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19
Printed/Typed Name: Cl. Lobodeaux | Signature: Cl. Lobodeaux | Month Day Year: 08 07 92

IF SPILLED IN LOUISIANA CALL THE LOUISIANA HAZMAT UNIT AT 504/925-6595 (DAY OR NIGHT)

EPA Form 8700-22 (Rev. 9/88) Previous edition is obsolete. DEQ FORM HW-1 (R 9/89)

STATE OF LOUISIANA
DEPARTMENT OF ENVIRONMENTAL QUALITY
HAZARDOUS WASTE DIVISION
P.O. BOX 82178
BATON ROUGE, LOUISIANA 70884-2178

FILE

PLEASE PRINT OR TYPE (Form designed for use on elite (12-pitch) typewriter)

Form Approved. OMB No. 2050-0039 Expires 9-30-92

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No. I L D 0 4 3 2 0 9 3 7 9 3 — Manifest Document No.
2. Page 1 of
Information in the shaded areas is not required by Federal law

3. Generator's Name and Mailing Address
CITY Chemicals Corporation
Patterson Road
Joliet, Illinois 60434
4. Generator's Phone (815) 727-5971

A. State Manifest Document Number: LA A 3162976
B. State Generator's ID
C. State Transporter's ID 0075
D. Transporter's Phone 708/396-1926
E. State Transporter's ID
F. Transporter's Phone
G. State Facility's ID
H. Facility's Phone 318/583-2159

5. Transporter 1 Company Name: Chemical Waste Management, Inc.
6. US EPA ID Number: I L D 0 9 9 2 0 2 6 8 1
7. Transporter 2 Company Name
8. US EPA ID Number
9. Designated Facility Name and Site Address
Chemical Waste Management, Inc.
John Brannon Road, #2
Carlyss, Louisiana 70663 7/18/92
10. US EPA ID Number: L A D 0 0 0 7 7 7 2 0 1

11. US DOT Description (Including Proper Shipping Name, Hazard Class, and ID Number)	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol	Waste No.
a. NON-REGULATED MATERIAL SRLAM6346	004	DM	00280	G	NH
b.					
c.					
d.					

J. Additional Descriptions for Materials Listed Above
a. OC-36, 51, 135, 15F
(OC-36, 51 ARE OVERPACKS)

K. Handling Codes for Wastes Listed Above
a. M132
b. M142

15. Special Handling Instructions and Additional Information
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For any manifest discrepancy, contact Alsid Technical Services at (708)396-1925.

16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations.
If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.

Printed/Typed Name: JOSEPH J. CARROLL
Signature
Month Day Year: 06 09 92

17. Transporter 1 Acknowledgement of Receipt of Materials
Printed/Typed Name
Signature
Month Day Year: 06 09 92

18. Transporter 2 Acknowledgement of Receipt of Materials
Printed/Typed Name
Signature
Month Day Year

19. Discrepancy Indication Space

20. Facility Owner or Operator Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.
Printed/Typed Name
Signature
Month Day Year

GENERATOR
TRANSPORTER
FACILITY

COPY 3

EPA Form 8700-22 (Rev. 3-90) Previous edition is obsolete.

DEQ FORM HW-3 (R 9-89)

STATE OF LOUISIANA
DEPARTMENT OF ENVIRONMENTAL QUALITY
HAZARDOUS WASTE DIVISION
P.O. BOX 82178
BATON ROUGE, LOUISIANA 70884-2178

(49458) 207431 L7

PLEASE PRINT OR TYPE (Form designed for use on elite (12-pitch) typewriter.)

Form Approved OMB No. 2050-0039. Expires 9-30-92

IF SPILLED IN LOUISIANA CALL THE LOUISIANA HAZMAT UNIT AT 504/925-6595 (DAY OR NIGHT)

UNIFORM ~~HAZARDOUS~~ WASTE MANIFEST

1. Generator's US EPA ID No. L D 0 4 9 8 0 9 3 7 9 9 — Manifest Document No.

2. Page 1 of 1

Information in the shaded areas is not required by Federal law.

GENERATOR

3. Generator's Name and Mailing Address
Olin Chemical Corporation
Patterson Road
Joliet, Illinois 60434

4. Generator's Phone 815 727-5971

A. State Manifest Document Number: LA A 3163032

B. State Generator's ID

5. Transporter 1 Company Name: Chemical Waste Management, Inc.

6. US EPA ID Number: I L D 0 0 9 9 2 0 2 6 8 1

C. State Transporter's ID 0 0 7 5

D. Transporter's Phone 708/396-1926

7. Transporter 2 Company Name

8. US EPA ID Number

E. State Transporter's ID

F. Transporter's Phone

9. Designated Facility Name and Site Address
Chemical Waste Management, Inc.
John Brannon Road
Carlyss, Louisiana 70663

10. US EPA ID Number: L A D 0 0 0 7 7 7 2 0 1

G. State Facility's ID

H. Facility's Phone 318/538-2169

11. US DOT Description (Including Proper Shipping Name, Hazard Class, and ID Number)	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol	Waste No.
a. NON-REGULATED MATERIAL NON-REGULATED GF5149 11/11/92	007	~~CF~~ PM	00505	G	NA NAOR
b. NON-REGULATED MATERIAL NON-REGULATED GF5149	005	PF	00275	G	NA NAOR
c. 95 191 JC 11-12-92 MT					
d.					

J. Additional Descriptions for Materials Listed Above
a. OC-14,15,16,35,20,21,30
b&9,10-11,12,13

K. Handling Codes for Wastes Listed Above
16. M142, M132
~~HH~~ 11b. M142, M132
11/9/92

15. Special Handling Instructions and Additional Information
In the event of an emergency, contact Chemical Waste Management at (205)652-9721.
For any manifest discrepancy, contact Waste Technical Services at (708)396-8334.

16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations.
If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.

Printed/Typed Name: JOSEPH J. CARROLL — Signature — Month Day Year: 11 04 92

TRANSPORTER

17 Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name: RICHARD J. CWIKLENSKI — Signature — Month Day Year: 11 04 92

18 Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name — Signature — Month Day Year

FACILITY

19 Discrepancy Indication Space

20 Facility Owner or Operator Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.

Printed/Typed Name: JULIE BLEVINS — Signature — Month Day Year: 11 10 92

EPA Form 8700-22 (Rev. 9-88) Previous editions are obsolete

DEQ FORM HW-3 (R 9/89)

11-25-92 01:35PM P04

STATE OF ILLINOIS

P.O. BOX 19276 SPRINGFIELD, ILLINOIS 62794-9276 (217) 782-6761

State Form LPC 62 8/81 IL532-0610

PLEASE TYPE (Form designed for use on elite (12-pitch) typewriter.) EPA Form 8700-22 (Rev. 9-88) Form Approved OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.: ILD049809379
Manifest Document No.: 192209
2. Page 1 of 1

Information in the shaded areas is not required by Federal law, but is required by Illinois law.

3. Generator's Name and Mailing Address: Olin Chemicals Corporation, Post office Box 2219, Joliet, Illinois 60434
Location If Different: Patterson Road, Joliet, Illinois 60434
4. Generator's Phone: (815) 1723-5971

A. Illinois Manifest Document Number: IL 3719224 — Fee Paid, If Applicable
B. Illinois Generator's ID: 1197045000001

5. Transporter 1 Company Name: Chemical Waste Management Inc
6. US EPA ID Number: ILD099202681
C. Illinois Transporter's ID: 010135
D. Transporter's Phone: (708) 396-1926

7. Transporter 2 Company Name: Chemical Waste Management
8. US EPA ID Number: ILD099202681
E. Illinois Transporter's ID: 010171
F. Transporter's Phone: (708) 396-1926

9. Designated Facility Name and Site Address: Trade Waste Incineration, #7 Mobile Avenue, Sauget, Illinois 62201
10. US EPA ID Number: ILD098642424
G. Illinois Facility's ID: 1163120001
H. Facility's Phone: (618) 271-2804

11. US DOT Description (Including Proper Shipping Name, Hazard Class, and ID Number)	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol	I. Waste No.
a. Waste Ammonium Hydroxide, Corrosive Material, NA2672 LABA02801	001	DF	00011	1 G	EPA HW Number: XXD002; Authorization Number: 0890001
b. Waste Picric Acid wet with not less than 10% water, Flammable Solid, NA1344 LABA02801	001	DF	00011	1 G	EPA HW Number: XXD001; Authorization Number: 0190001
c. Waste Poison B, Solid, N.O.S., Poison B (ammonium vanadate) UN2811 LABA02801	001	DF	00011	1 G	EPA HW Number: XXP119; Authorization Number: 0190001
d. Waste Oxidizer, N.O.S., Oxidizer UN1479 LABA02801	001	DF	00005	1 G	EPA HW Number: XXD001; Authorization Number: 0190001

J. Additional Descriptions for Materials Listed Above: The above are lab packs
11a) Drum # OCT-18
11b) Drum # OCT-20
11c) Drum # OCT-19
11d) Drum # OCT-21 code: D011

K. Handling Codes for Wastes Listed Above in Item #14: 1 = Gallons 2 = Cubic Yards

15. Special Handling Instructions and Additional Information
In Event of an emergency contact Chemical waste Management, Inc. at (205) 652-9721

16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations.

If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.

Printed/Typed Name: JOSEPH CARROLL — Signature: Joseph Carroll — Date (Month Day Year): 020692

17. Transporter 1 Acknowledgement of Receipt of Materials
Printed/Typed Name: DAVID TONKOVICH — Signature: [signature] — Date (Month Day Year): 020692

18. Transporter 2 Acknowledgement of Receipt of Materials
Printed/Typed Name: KURT HEIDZEKE — Signature: [signature] — Date (Month Day Year): 021292

19. Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.
Printed/Typed Name: Cynthia A Williams — Signature: Cynthia Williams — Date (Month Day Year): 021492

This agency is authorized to require this information under Illinois Revised Statutes, Chapter 111½, Section 1021... Failure to provide this information may result in a civil penalty against the owner or operator not to exceed $25,000 per day of violation. Falsification of this information may result in a fine up to $50,000 per day of violation and imprisonment up to 5 years. This form has been approved by the Forms Management Center.

COPY 1. TSD MAIL TO GENERATOR COPY

2-5144

P.O. BOX 19276 , SPRINGFIELD, ILLINOIS 62794-9276 (217) 782-6761

State Form LPC 62 8/81 IL532-0610

PLEASE TYPE (Form designed for use on elite (12-pitch) typewriter) EPA Form 8700-22 (Rev. 9-88) Form Approved OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No. I L D 0 0 4 9 8 0 9 3 7 9 | Manifest Document No. 9 2 1 5 3 | 2. Page 1 of 1 | Information in the shaded areas is not required by Federal law, but is required by Illinois law.

3. Generator's Name and Mailing Address
Olin Chemicals Corporation
Post Office Box 2219
Joliet, Illinois 60434

Location If Different
Patterson Road
Joliet, Illinois 60434

4. Generator's Phone (815) 727-5971

A. Illinois Manifest Document Number IL 3719442 Fee Paid, Applicable

B. Illinois Generator's ID 1 9 7 0 4 5 0 0 0

5. Transporter 1 Company Name: Chemical Waste Management, Inc.
6. US EPA ID Number: I L D 0 9 9 2 0 2 6 8 1
C. Illinois Transporter's ID 0 0 7
D. (708) 396-1926 Transporter's Phone

7. Transporter 2 Company Name: Chemical Waste Management
8. US EPA ID Number: I L D 0 9 9 7 0 7 6 8 1
E. Illinois Transporter's ID 1 0 1 7
F. (708) 396-1926 Transporter's Phone

9. Designated Facility Name and Site Address
Trade Waste Incineration
#7 Mobile Avenue
Sauget, Illinois 62201
10. US EPA ID Number: I L D 0 9 8 6 4 2 4 2 4
G. Illinois Facility's ID 1 6 3 1 2 1 0 0 0
H. Facility's Phone (618) 271-2804

11. US DOT Description (Including Proper Shipping Name, Hazard Class, and ID Number)	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol	Waste No.
a. Waste Perchloric Acid Not exceeding 72% Strength Oxidizer UN1873 LABA02801	009	DF	00045	G	EPA HW Number XXD001 Authorization Number 0901010
b. Waste Hydrogen Peroxide Solution Oxidizer UN2014 LABA02801	001	DF	00005	G	EPA HW Number XXD001 Authorization Number 0901010
c. Hazardous waste Solid, N.O.S. ORM-E NA9189 LABA02801	006	DF	00096	G	EPA HW Number XXU114 Authorization Number 0901010
d. Phosphoric Annydride Corrosive Material NA1807 LABA02801	001	DF	00016	G	EPA HW Number XXNOIN Authorization Number 0901010

J. Additional Descriptions for Materials Listed Above
(a) Drum # OCT-1-9 The above are lapacks
(b) Drum # OCT -10
(c) Drum # OCT 11-14 code: 0005, 4328
(d) Drum # OCT -17

K. Handling Codes for Wastes Listed Above in Item # 14
1 = Gallons 2 = Cubic Yards

15. Special Handling Instructions and Additional Information
In event of an emergency, contact Chemical Waste Management, Inc. at (205)652-9721.

16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations.
If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.

Printed/Typed Name: JOSEPH CARROLL Signature: Joseph Carroll Date: Month Day Year 02 06 92

TRANSPORTER

17. Transporter 1 Acknowledgement of Receipt of Materials
Printed/Typed Name: DAVID TONKOVICH Signature: David Tonkovich Date: Month Day Year 02 06 92

18. Transporter 2 Acknowledgement of Receipt of Materials
Printed/Typed Name: KURT HEIDECKE Signature: Kurt Heidecke Date: Month Day Year 02 12 92

FACILITY

19. Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in item 19.
Printed/Typed Name: Cynthia Williams Signature: Cynthia Williams Date: Month Day Year 02 14 92

This Agency is authorized to require, pursuant to Illinois Revised Statutes, Chapter 111½, Section 21, that this information be submitted to the Agency. Failure to provide the information may result in a civil penalty against the owner or operator of not to exceed $25,000 per day of violation. Falsification of this information may result in a fine up to $10,000 per day of violation and imprisonment up to 5 years. This form has been approved by the Forms Management Center.

COPY 1. TSD MAIL TO GENERATOR COPY

2-5144

STATE OF ILLINOIS

P.O. BOX 19276 , SPRINGFIELD, ILLINOIS 62794-9276 (217) 782-6761

State Form LPC 62 8/81 IL532-0610

PLEASE TYPE (Form designed for use on elite (12-pitch) typewriter) EPA Form 8700-22 (Rev. 9-88) Form Approved OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No. I L D 0 0 4 9 8 0 9 3 7 9 | Manifest Document No. 9 0 2 1 5 4 | 2. Page 1 of 1 | Information in the shaded areas is not required by Federal law, but is required by Illinois law.

3. Generator's Name and Mailing Address: Olin Chemicals Corporation, Post Office Box 2219, Joliet, Illinois 60434

Location If Different: Patterson Road, Joliet, Illinois 60434

4. Generator's Phone (815) 727-5971

A. Illinois Manifest Document Number: IL 3719443 Fee Paid, If Applicable

B. Illinois Generator's ID: 1 9 7 0 4 5 0 0 0 1

5. Transporter 1 Company Name: Chemical Waste Management, Inc.

6. US EPA ID Number: I L D 0 9 9 2 0 2 6 8 1

C. Illinois Transporter's ID: 0 0 7 5

D. (708) 396-1926 Transporter's Phone

7. Transporter 2 Company Name: Chemical Waste Management

8. US EPA ID Number: ILD099202681

E. Illinois Transporter's ID: 1 0 1 5 7 5

F. (708) 396-1926 Transporter's Phone

9. Designated Facility Name and Site Address: Trade Waste Incineration, #7 Mobile Avenue, Sauget, Illinois 62201

10. US EPA ID Number: I L D 0 9 8 6 4 2 4 2 4

G. Illinois Facility's ID: 1 6 3 1 2 1 0 0 0 9

H. Facility's Phone (618) 271-2804

11. US DOT Description (Including Proper Shipping Name, Hazard Class, and ID Number)	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol	I. Waste No.
a. Waste Paint Related Material, Flammable Liquid, NA1263, LABA02802	2-5-92 005	DM	00025	1 G	EPA HW Number: XXD10011; Authorization Number: 09000011
b. Waste Paint Related Material, Flammable Liquid, NA1263, LABA02802	2-5-92 005	DF	00080	1 G	EPA HW Number: XXD00011; Authorization Number: 09000101
c. Non Regulated Illinois Special Waste, LABA02802	010	DF	00072	1 G	EPA HW Number: XXNONE; Authorization Number: 09000102
d. Non Regulated Illinois Special Waste, LABA02802	002	DM	00010	1 G	EPA HW Number: XXNONE; Authorization Number: 09000103

J. Additional Descriptions for Materials Listed Above — The above are labpacks (decants)

11a) Drum # OCD 1-3, 6, 7

11b) Drum # OCD-4, 5, 12, 18, 21

11c) Drum # OCD-8, 11, 13 thru 16, 20, 22-24

11d) Drum # OCD-9, 10, 17

K. Handling Codes for Wastes Listed Above in Item # 14: 1 = Gallons 2 = Cubic Yards

15. Special Handling Instructions and Additional Information

In event of an emergency, contact Chemical Waste Management, Inc. at (205)652-9721.

16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations.

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Printed/Typed Name	Signature	Month Day Year
JOSEPH CARROLL	Joseph Carroll	02 06 92

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month Day Year
DAVID TONKOVICH		02 06 92

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month Day Year
KURT HEIDECKE		02 12 92

19. Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in item 19.

Printed/Typed Name	Signature	Month Day Year
CYNTHIA WILLIAMS		02 14 92

This Agency is authorized to require, pursuant to Illinois Revised Statutes, Chapter 111 + Section 21, that this information be submitted to the Agency. Failure to provide the information may result in a civil penalty against the owner or operator of not to exceed $25,000 per day of violation. Falsification of this information may result in a fine up to $50,000 per day of violation and imprisonment up to 5 years. This form has been approved by the Forms Management Center.

COPY 1. TSD MAIL TO GENERATOR COPY

2-5138

STATE OF ILLINOIS
P.O. BOX 19276, SPRINGFIELD, ILLINOIS 62794-9276 (217) 782-6761
State Form LPC 62 8/81 IL532-0010
PLEASE TYPE (Form designed for use on elite (12-pitch) typewriter.) EPA Form 8700-22 (Rev. 9-88) Form Approved OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No. ILD049809379 Manifest Document No. 92T55
2. Page 1 of 1
Information in the shaded areas is not required by Federal law, but is required by Illinois law.

3. Generator's Name and Mailing Address
Olin Chemicals Corporation
Post Office Box 2219
Joliet, Illinois 60434
Location If Different
Patterson Road
Joliet, Illinois 60434
4. Generator's Phone (815) 727-5971

A. Illinois Manifest Document Number IL 3719444 Fee Paid, If Applicable
B. Illinois Generator's ID 1970450001

5. Transporter 1 Company Name: Chemical Waste Management, Inc.
6. US EPA ID Number: ILD099202681
C. Illinois Transporter's ID 0075
D. Transporter's Phone (708) 396-1926

7. Transporter 2 Company Name: Chemical Waste Management
8. US EPA ID Number: ILD099202681
E. Illinois Transporter's ID 0075
F. Transporter's Phone (708) 396-1926

9. Designated Facility Name and Site Address
Trade Waste Incineration
#7 Mobile Avenue
Sauget, Illinois 62201
10. US EPA ID Number: ILD098642424
G. Illinois Facility's ID 1631210009
H. Facility's Phone (618) 271-2804

11. US DOT Description (Including Proper Shipping Name, Hazard Class, and ID Number)	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol	I. Waste No.
a. Waste Paint Flammable Liquid UN1263 LAB A02802	001	DF	00016	G	EPA HW Number: XXD001; Authorization Number: 0910001
b. Waste Combustible Liquid, N.O.S. Combustible Liquid NA1993 LAB A02802	001	DF	00005	G	EPA HW Number: XXD001; Authorization Number: 0990001
c. Waste Paint Related Material Flammable Liquid NA1263 RQ D001 LABA02803	002	DM	00110	G	EPA HW Number: XXD001; Authorization Number: 0910001
d. Waste Flammable Liquid, N.O.S. Flammable Liquid UN1993 RQ D001 LABA06920	001	DM	00055	G	EPA HW Number: XXD001; Authorization Number: 0910001

J. Additional Descriptions for Materials Listed Above — The above are labpacks
11a) Drum # OCD-17
11b) Drum # OCD-19
11c) Drum # OCR 1,2 code D009, D007
11d) Drum # OCR-1 codes U154, D035

K. Handling Codes for Wastes Listed Above in Item #14
1 = Gallons 2 - Cubic Yards

15. Special Handling Instructions and Additional Information
In event of an emergency, contact Chemical Waste Management, Inc. at (205)652-9721.

16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations.

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Printed/Typed Name: Joseph Carroll Signature: Joseph Carroll Date (Month Day Year): 02 06 92

17. Transporter 1 Acknowledgement of Receipt of Materials
Printed/Typed Name: David Tankovich Signature: [signature] Date (Month Day Year): 02 06 92

18. Transporter 2 Acknowledgement of Receipt of Materials
Printed/Typed Name: Kurt Heidecke Signature: Kurt Heidecke Date (Month Day Year): 02 12 92

19. Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.
Printed/Typed Name: Cynthia Williams Signature: Cynthia Williams Date (Month Day Year): 02 14 92

This Agency is authorized to require, pursuant to Illinois Revised Statutes, Chapter 111½, Section 21 that the information submitted to the Agency. Failure to provide this information may result in a civil penalty against the owner or operator of not to exceed $25,000 per day of violation. Falsification of this information may result in a fine up to $50,000 per day of violation and imprisonment up to 5 years. This form has been approved by the Forms Management Center.

COPY 1. TSD MAIL TO GENERATOR COPY

2-5136 D 2-5138 A+B
2-5137 C

State Form LPC 62 8/81 IL532-0610

PLEASE TYPE (Form designed for use on elite (12-pitch) typewriter.) EPA Form 8700-22 (Rev. 9-88) Form Approved OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.: ILD049809379 | Manifest Document No.: 19226 | 2. Page 1 of 1 | Information in the shaded areas is not required by Federal law, but is required by Illinois law

3. Generator's Name and Mailing Address: Olin Chemicals Corporation, Post office box 2219, Joliet, Illinois 60434

Location If Different: Patterson Road, Joliet Illinois 60434

4. Generator's Phone (815) 727-5971

A. Illinois Manifest Document Number: IL 3733535 — Fee Paid, If Applicable

B. Illinois Generator's ID: 1197041500011

5. Transporter 1 Company Name: Chemical Waste Management Inc

6. US EPA ID Number: ILD099202681

C. Illinois Transporter's ID: 10015

D. (708) 396-1926 Transporter's Phone

7. Transporter 2 Company Name:

8. US EPA ID Number:

E. Illinois Transporter's ID:

F. ( ) Transporter's Phone

9. Designated Facility Name and Site Address: Trade Waste Incineration, #7 Mobile Drive, Sauget, Illinois 62201

10. US EPA ID Number: ILD098642424

G. Illinois Facility's ID: 1163121100019

H. Facility's Phone: (618) 271-2804

11. US DOT Description (Including Proper Shipping Name, Hazard Class, and ID Number)	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol	I. Waste No.
a. Waste Flammable Liquid, N.O.S. Flammable Liquid UN1993 LABA06921	001	DF	00005	1 G	EPA HW Number XXD001; Authorization Number 0900011
b. Non Regulated Illinois Special Waste LABA06921	002	DF	00010	1 G	EPA HW Number XXNONE; Authorization Number 0910002
c. Non Regulated Illinois Special Waste LABA06921	001	DM	00005	1 G	EPA HW Number XXNONE; Authorization Number 0910002
d. Non Regulated Illinois Special Waste LABA02845	002	DF	00032	1 G	EPA HW Number XXNONE; Authorization Number 0910012

J. Additional Descriptions for Materials Listed Above: The above are labpacks
(1a) Drum # OCD-1
(1b) Drum # OCD-3,2
(1c) Drum # OCD-4
(1d) Drum # OCT-13

K. Handling Codes for Wastes Listed Above in Item # 14
1 = Gallons 2 = Cubic Yards

THIS MATERIAL MUST BE DISPATCHED NO LATER THAN 19/2/92 DAY MO. YR.

15. Special Handling Instructions and Additional Information

In event of an emergency contact Chemical Waste Management Inc. at (205) 652-9721

16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations.

If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.

Printed/Typed Name: JOSEPH CARROLL | Signature: Joseph J. Carroll | Date Month Day Year: 02 11 92

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name: Milford Grimes / Laura Williams | Signature: Milton Grimes 02-19-92 / Laura Williams | Date Month Day Year: 02 11 92

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name: | Signature: | Date Month Day Year:

19. Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in item 19.

Printed/Typed Name: Cynthia Williams | Signature: Cynthia Williams | Date Month Day Year: 02 22 92

This Agency is authorized to require, pursuant to Illinois Revised Statutes, Chapter 111½ Section 21, that this information be submitted to the Agency. Failure to provide the information may result in a civil penalty against the owner or operator not to exceed $25,000 per day of violation. Falsification of this information may result in a fine up to $50,000 per day of violation and imprisonment up to 5 years. This form has been approved by the Forms Management Center.

COPY 1. TSD MAIL TO GENERATOR COPY

2542 8 A-C
2542 9 D

NR - NON REGULATED

STATE OF ILLINOIS

P.O. BOX 19276 , SPRINGFIELD, ILLINOIS 62794-9276 (217) 782-6761

State Form LPC 62 8/81 IL532-0610

8-24-92

PLEASE TYPE (Form designed for use on elite (12-pitch) typewriter) EPA Form 8700-22 (Rev. 9-88) Form Approved OMB No 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No. I L D 0 4 9 8 0 9 3 7 9 | Manifest Document No. 002

2. Page 1 of 1 | Information in the shaded areas is not required by Federal law, but is required by Illinois law

3. Generator's Name and Mailing Address
Olin Chemical Company
Patterson Road
Joliet, Illinois 60434

Location If Different

4. Generator's Phone (815) 727-5971

A. Illinois Manifest Document Number IL 3777978 Fee Paid, If Applicable

B. Illinois Generator's ID 1 9 7 0 4 5 0 0 1 C

5. Transporter 1 Company Name: Chemical Waste Management, Inc.

6. US EPA ID Number: I L D 0 9 9 2 0 2 6 8 1

C. Illinois Transporter's ID 0 0 7 5

D. (708) 396-1926 Transporter's Phone

7. Transporter 2 Company Name

8. US EPA ID Number

E. Illinois Transporter's ID

F. ( ) Transporter's Phone

9. Designated Facility Name and Site Address
CWM Resource & Recovery, INC
4301 Infirmary Road
West Carrollton, Ohio 45449

10. US EPA ID Number: O H D 0 9 3 9 4 5 2 9 3

G. Illinois Facility's ID 9 3 9 1 1 3 0 0 5 (VR)

H. Facility's Phone (513)859-6101

11. US DOT Description (Including Proper Shipping Name, Hazard Class, and ID Number)	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol	I. Waste No.
a. Hazardous Waste, liquid, n.o.s. (1,1,1 Trichloroethane in oil) ORM-E NA 9189 LAB AM 6347	005	DM	0,9,2,80	G 1	EPA HW Number XXF001 Authorization Number
b. Waste Flammable liquid, n.o.s. (Diesel Fuel, Petroleum Distillates) Flammable liquid UN 1993 RQ (D001) LAB AM 6350	007	DM	0,0,4,4,5	G 1	EPA HW Number XXD001 Authorization Number
c. Hazardous Waste, liquid, n.o.s. (Methylene Chloride, Carbon Tetrachloride) ORM-E NA 9189 RQ (D019, D039, D040, F001, F002) LAB AM 6351	002	DM	0,0,1,4,0	G 1	EPA HW Number XXF001 Authorization Number
d. Non-Regulated Material LAB AM 6366	001	DM	0,0,0,5,5	G 1	EPA HW Number XXNONE Authorization Number

J. Additional Descriptions for Materials Listed Above All of the above are DOT drums Additional Codes
11a) Drum # OC 26, 53, 61, 62; OC 19 is overpack F002
11b) Drum # OC 118, 128-130; OC 96, 109, 146 F003, F005
11c) Drum # OC 94, 119, S overpack D019, D039, D040, F002
11d) Drum # OC 147

K. Handling Codes for Wastes Listed Above in Item # 14
1 = Gallons 2 = Cubic Yards
T03

15. Special Handling Instructions and Additional Information
In event of an emergency contact Chemical Waste Management, Inc. at (205)652-9721.

16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations.

If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.

GENERATOR

Printed/Typed Name	Signature	Date (Month Day Year)
JOSEPH J. CARROLL (SITE SUPERVISOR)	Joseph J. Carroll	08 17 92

TRANSPORTER

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Date (Month Day Year)
KARL F HOWARD	Karl F Howard	08 17 92

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Date (Month Day Year)

FACILITY

19. Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in item 19.

Printed/Typed Name	Signature	Date (Month Day Year)
M ROSE	M Rose	08 21 92

This Agency is authorized to require, pursuant to Illinois Revised Statutes, Chapter 111 1/2, Section 21, that this information be submitted to the Agency. Failure to provide the information may result in a civil penalty against the owner or operator of not to exceed $25,000 per day of violation. Falsification of this information may result in a fine up to $50,000 per day of violation and imprisonment up to 5 years. This form has been approved by the Forms Management Center

COPY 1. TSD MAIL TO GENERATOR COPY

11-25-92 01:35PM P09

STATE OF ILLINOIS

P.O. BOX 19276 SPRINGFIELD, ILLINOIS 62794-9276 (217) 782-6761

State Form LPC 62 8/91 IL532-0610

FOR SHIPMENT OF HAZARDOUS AND SPECIAL WASTE

NOTE: FORM DESIGNED TO PRINT 6 LINES PER INCH. EPA Form 8700-22 (Rev. 6-88) Form Approved. OMB No. 2050-0039, Expires 6-30-92

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No. ILD049809379 Manifest Document No. 33592

2. Page 1 of 1

Information in the shaded areas is not required by Federal law, but is required by Illinois Law.

3. Generator's Name and Mailing Address: Olin Chemicals Corporation, Patterson Road, Joliet, Illinois 60434 (815)727-5971

Location If Different:

4. 24 HOUR EMERGENCY AND SPILL ASSISTANCE NUMBERS: (205)652-9721

A. Illinois Manifest Document Number: IL 4651656 For Pollution Control Use Only If Applicable

B. Illinois Generator's ID: 1979450004

5. Transporter 1 Company Name: Chemical Waste Management, Inc.

6. US EPA ID Number: ILD099202581

C. Illinois Transporter's ID: U

D. (708) 396-1926 Transporter's Phone

7. Transporter 2 Company Name: OZINGA TRANS. SYST.

8. US EPA ID Number: ILR000067173

E. Illinois Transporter's ID: 10

F. (708) 388-0220 Transporter's Phone

9. Designated Facility Name and Site Address: Trade Waste Incineration, #7 Mobile Avenue, Sauget, Illinois 62201

10. US EPA ID Number: ILD009864244

G. Illinois Facility's ID: 1631210005

H. Facility's Phone: (618) 271-2804

11. US DOT Description (Including Proper Shipping Name, Hazard Class, and ID Number)	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol	Waste No.
a. WASTE FLAMMABLE LIQUIDS, NOS (ALKYL ALKANOLAMINES) FLAMMABLE LIQUID UN 1993 2.1 (D001) MBL AM6340	001	DM	000055	G	D001
b. WASTE FLAMMABLE LIQUIDS, NOS (PETROLEUM DISTILLATES) FLAMMABLE LIQUID UN 1993 2.1 (D001) MBL AM6343	002	DM	000170	G	D001
c.					
d.					

J. Additional Descriptions for Materials Listed Above
1a. OC-93
1b. OC-21,34 (OVERPACKS)

K. Handling Codes for Wastes Listed Above In Item # 14
G = Gallons Y = Cubic Yards

15. Special Handling Instructions and Additional Information

16. GENERATOR'S CERTIFICATION: I hereby certify that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations.

If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.

Printed / Typed Name: JOSEPH J. CARROLL Signature: Joseph J. Carroll Month Day Year: 09 09 92

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed / Typed Name: Christopher Bosa Signature: Christopher Bosa Month Day Year: 09 09 92

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed / Typed Name: JOHN SMITH JR Signature: John Smith Jr Month Day Year: 09 10 92

19. Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.

Printed / Typed Name: Mija J. HERRING Signature: Mija J. Herring Month Day Year: 09 10 92

GENERATOR TRANSPORTER FACILITY

Public reporting burden for this collection of information is estimated to vary from 15 minutes to 1 hour per response, with an average of 30 minutes per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Chief, Information Policy Branch, PM-223, U.S. Environmental Protection Agency, Washington, DC 20460; and to the Office of Management and Budget, Paperwork Reduction Project (2050-0039), Washington, DC 20503.

In case of a spill call the Illinois Office of Emergency Response at 1-217-782-7860

DESIGNATED FACILITY COPY 3-1727 3-1728